

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1170-16-71	WISC 2021175	1

PLAN OF PROPOSED IMPROVEMENT

BEARSKIN BRIDGE TO ROCKY RUN ROAD

USH 51

ONEIDA COUNTY

STATE PROJECT NUMBER
1170-16-71

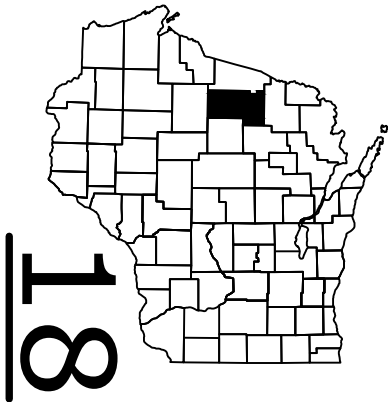
END PROJECT 1170-16-71
STA 849+00

BEGIN PROJECT 1170-16-71
STA 663+06.50
X = 189408.41
Y= 165116.35

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	0	Cross Sections

TOTAL SHEETS = 62







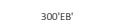
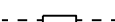
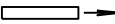

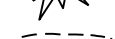
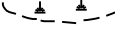



DESIGN DESIGNATION

A.A.D.T.	(2021)	=	6500
A.A.D.T.	(2041)	=	7240
D.H.V.		=	
D.D.		=	
T.		=	15.8%
DESIGN SPEED		=	60 MPH
ESALS		=	2,780,000

CONVENTIONAL SYMBOLS

PLAN

CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

PROFILE

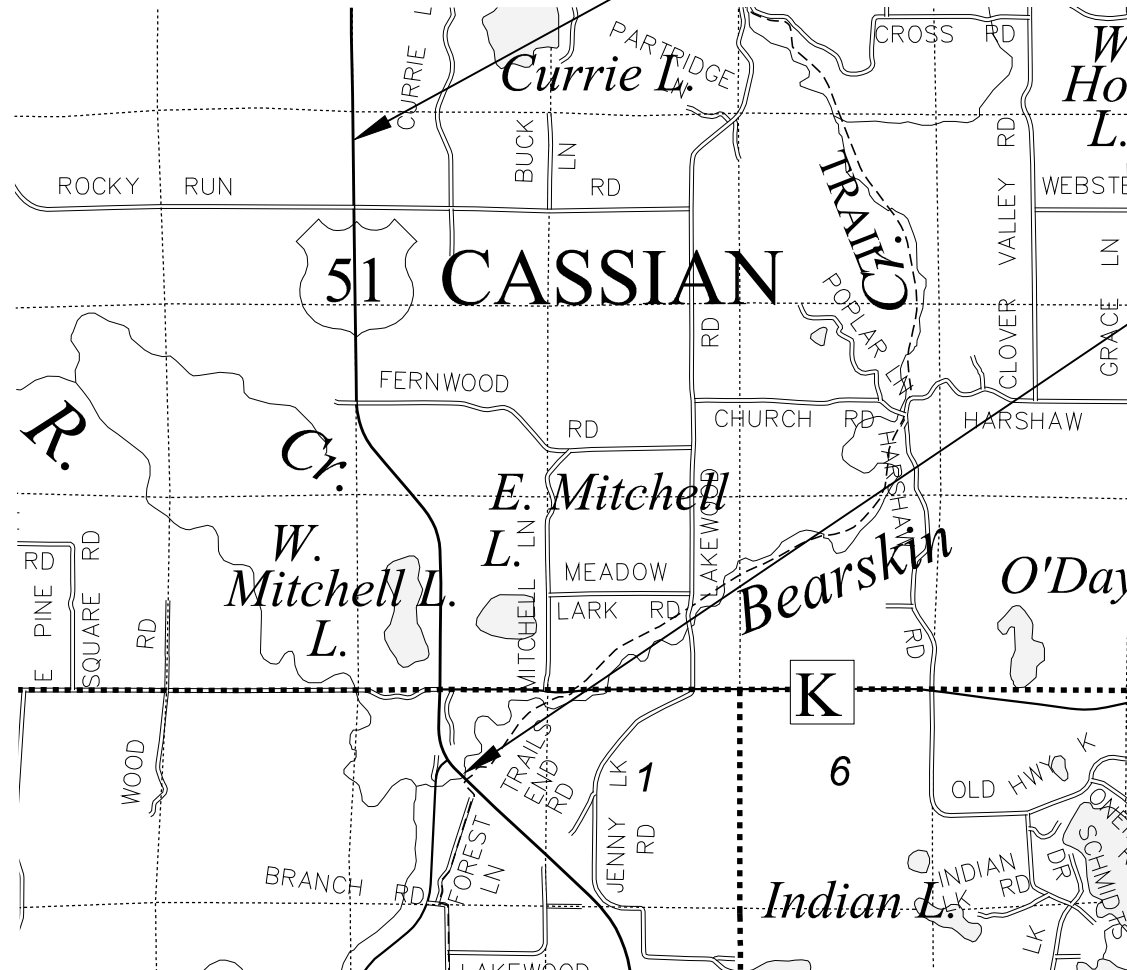
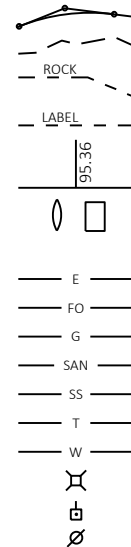
GRADE LINE
ORIGINAL GROUND
MARSH OR ROCK PROFILE
(To be noted as such)
SPECIAL DITCH

GRADE ELEVATION

CULVERT (Profile View)

UTILITIES


ELECTRIC
FIBER OPTIC
GAS
SANITARY SEWER
STORM SEWER
TELEPHONE
WATER
UTILITY PEDESTAL
POWER POLE
TELEPHONE POLE



SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 3.521

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN
COORDINATE REFERENCE SYSTEM (WISCRS), ONEIDA COUNTY,
NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID
COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES
ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED
TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	_____ SURVEYOR
Designer	_____ TED A. SMITH
Project Manager	_____ JESSE JEFFERSON
Regional Examiner	_____ CHERYL L. SIMON
Regional Supervisor	_____ DANIEL ERVA
APPROVED FOR THE DEPARTMENT	
DATE: 10/01/2020	_____  (Signature)

GENERAL NOTES

- 1. CURVE DATA IS BASED ON THE ARC DEFINITION.
- 2. WHEN THE QUANTITY OF THE ITEMS OF BASE AGGREGATE, SUBBASE OR HMA PAVEMENT IS MEASURED FOR THICKNESS OF THE LAYER SHOWN ON THE PLAN MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYERS SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER
- 3. CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND RESEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY HIS OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS
- 4. THE LOCATION OF EXISTING & PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN ON THE PLAN
- 5. PURSUANT TO CHAPTER 59 OF THE WISCONSIN STATUES, THE CONTRACTOR SHALL CAREFULLY MAKE A SEARCH FOR EVIDENCE OF A LANDMARK IN ALL AREAS WHERE SUCH A LANDMARK MAY EXIST

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIP- TURF	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPE: TURF			.25			.27			.28			.30
			.32			.34			.36			.38
PAVEMENT:												
ASPHALT						.70 - .95						
CONCRETE						.80 - .95						
BRICK						.70 - .80						
DRIVES, WALKS						.75 - .85						
ROOFS						.75 - .95						
GRAVEL ROADS, SHOULDERS						.40 - .60						

TOTAL PROJECT AREA = 22.831 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.000 ACRES

CONTACTS

CHARTER COMMUNICATIONS
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Rhineland, WI 54501
Phone: (715) 519-0042
E-Mail: steve.brown@charter.com

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Russ Ryan
315 Oak Street
Oakfield, WI 53065
Phone: (920) 583-3275 Work
Phone: (920) 737-9662 Mobile
E-Mail: russell.wi.ryan@ftr.com

WPS – ELECTRICITY
Kevin TerMaat
P.O. Box 1166
Wausau, WI 54401-1166
Phone: (715) 848-7353
E-Mail:
kevin.termaat@Wisconsinpublicservice.com

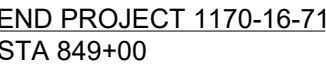
DNR
CONTACT:

WENDY HENNIGES
107 SUTLIFF AVENUE
RHINELANDER, WI 54501
WENDY.HENNIGES@WISCONSIN.GOV
715-365-8916

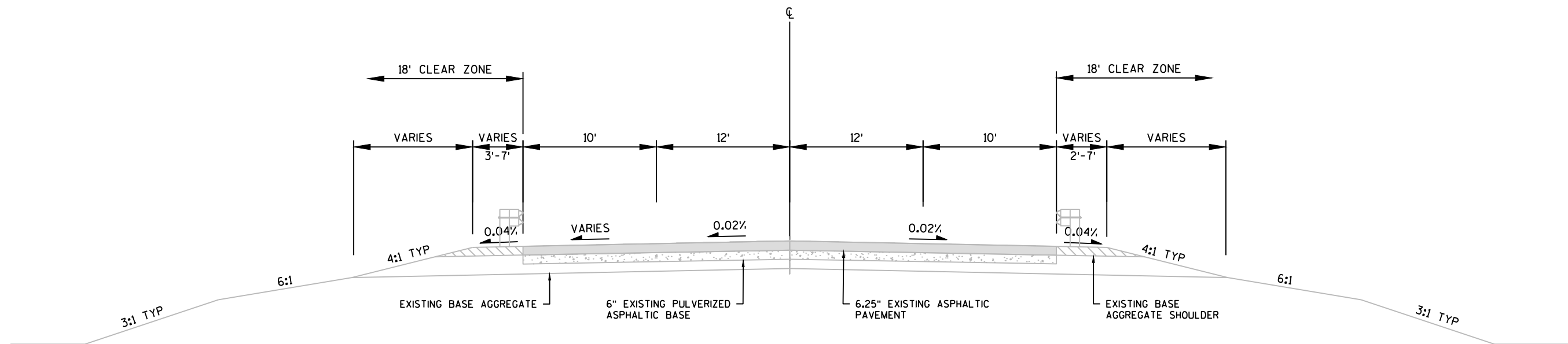


Dial 811 or (800)242-8511

www.DiggersHotline.com

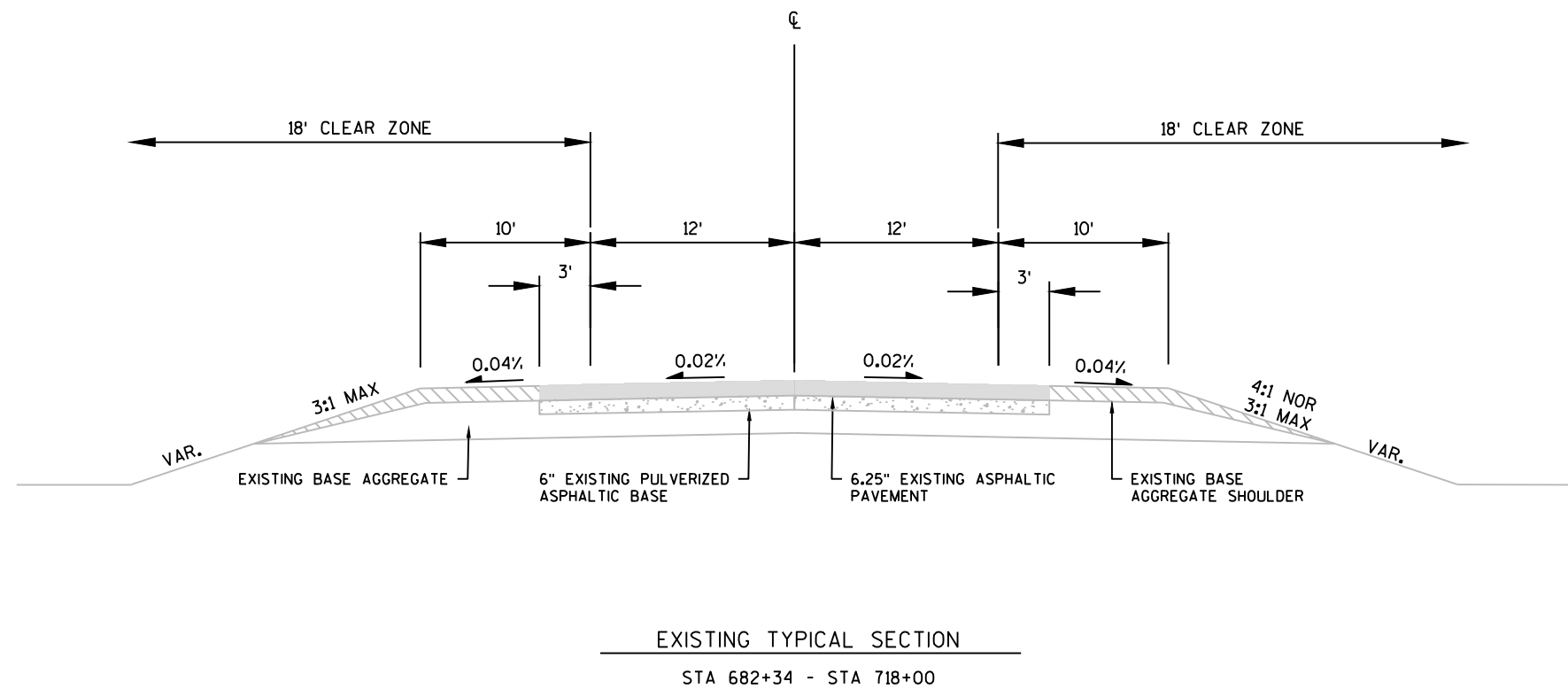
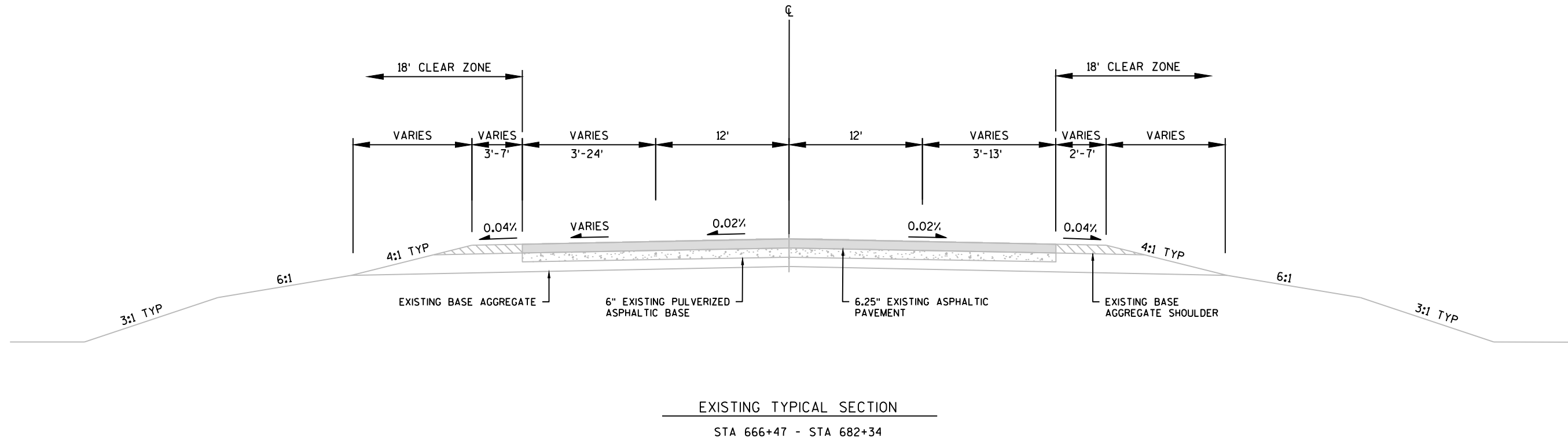


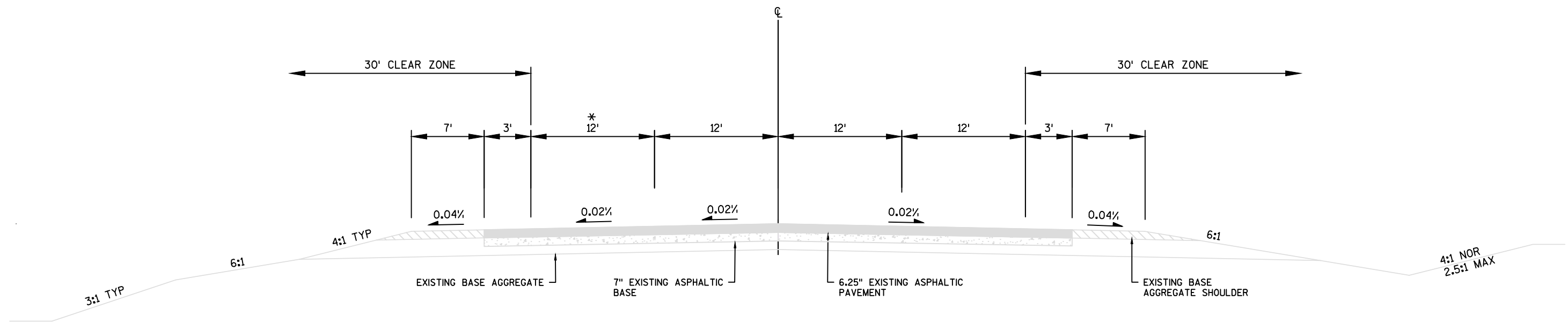
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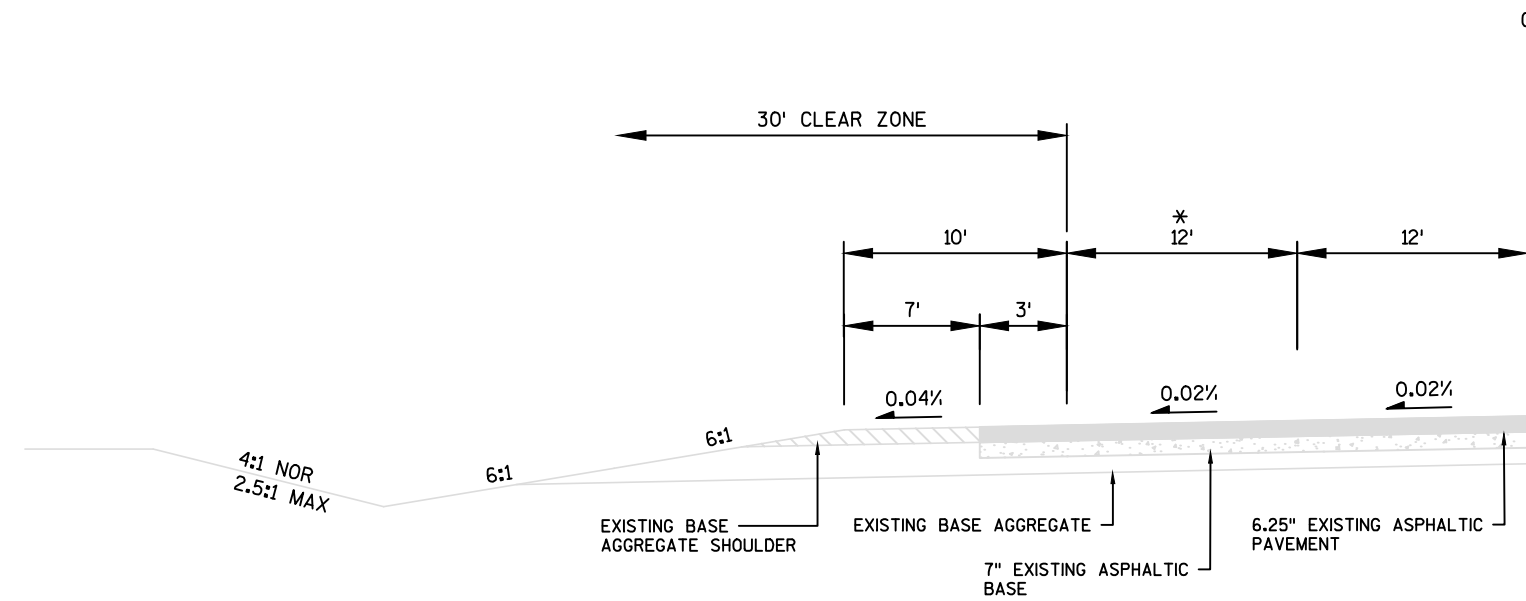
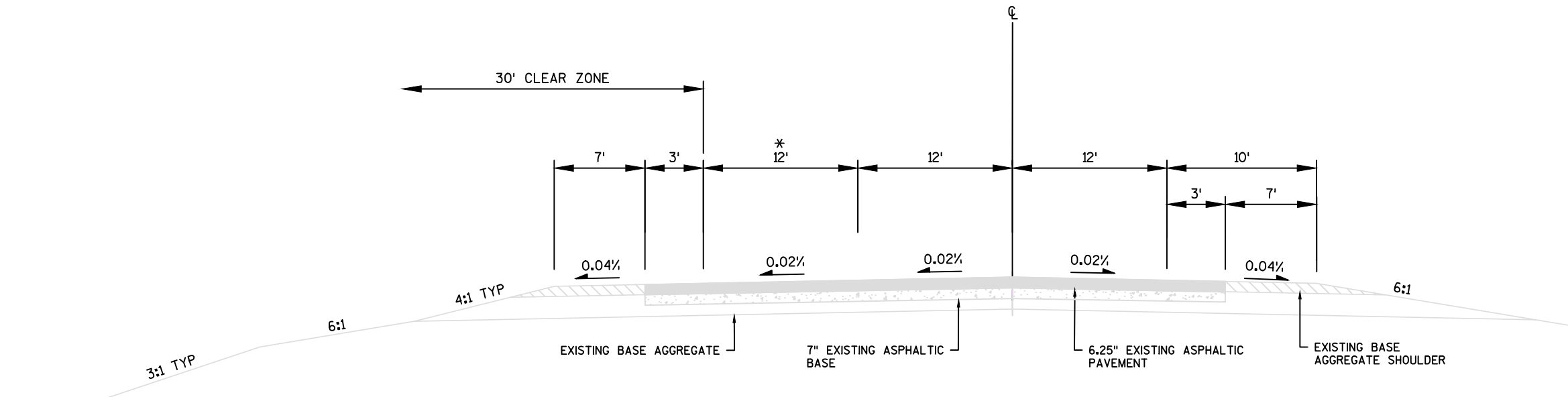
EXISTING TYPICAL SECTION

STA 663+06.50 - STA 666+47





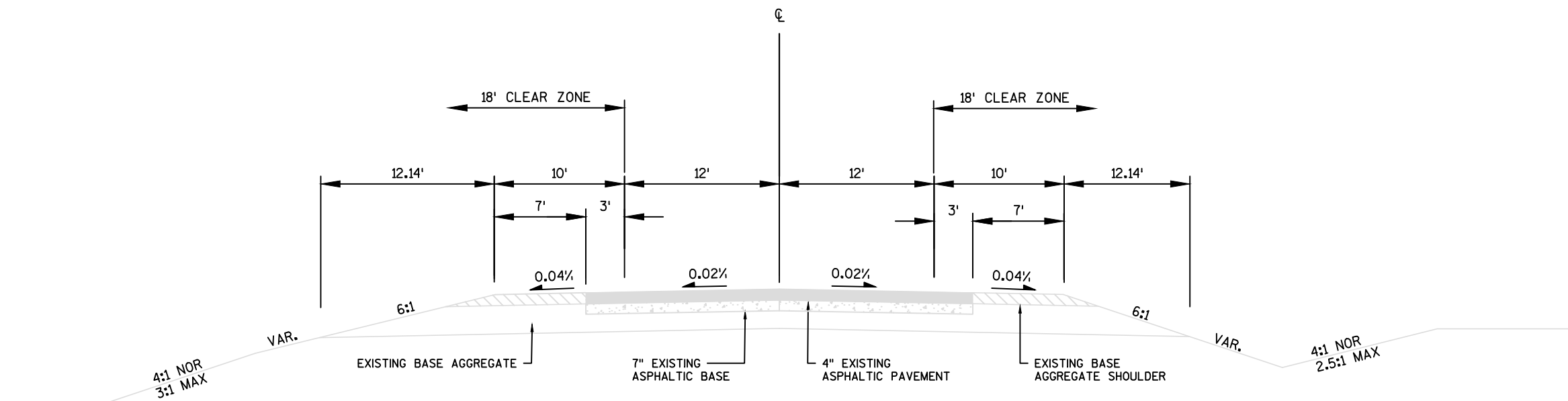
* STA 718+00 - STA 725+00 WIDTH TRANSITIONS FROM 0' TO 12'



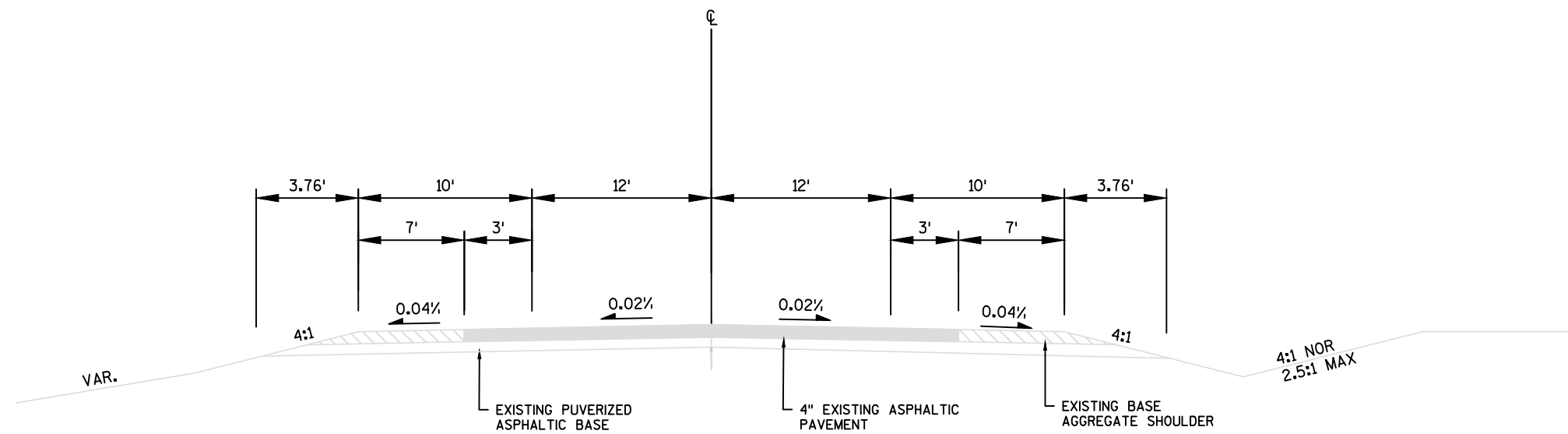
* STA 817+00 - STA 823+97.38 WIDTH TRANSITIONS FROM 12' TO 0'

EXISTING TYPICAL SECTION

STA 790+00 - STA 832+97.38

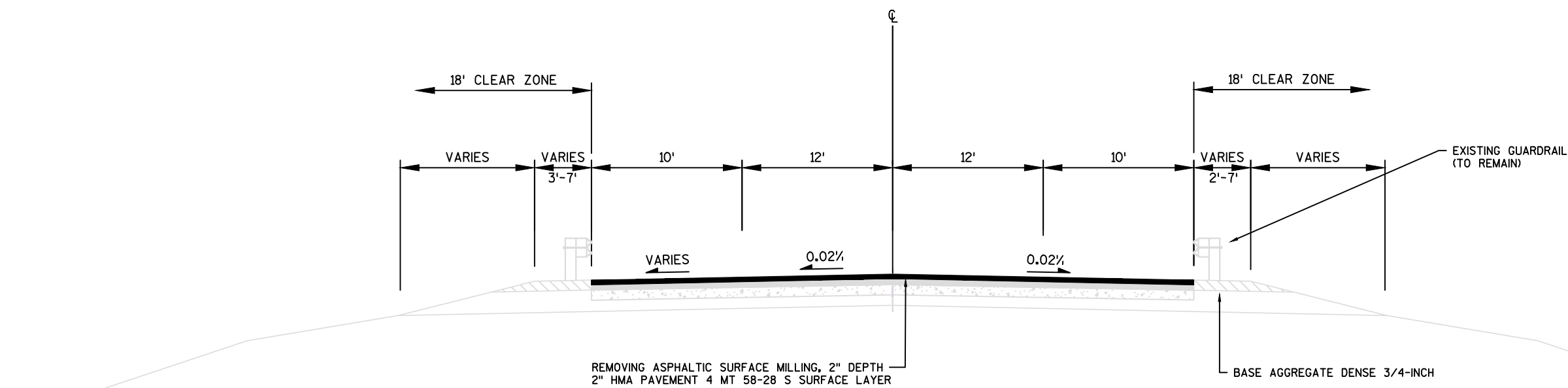


EXISTING TYPICAL SECTION
STA 832+97.38 - STA 849+00



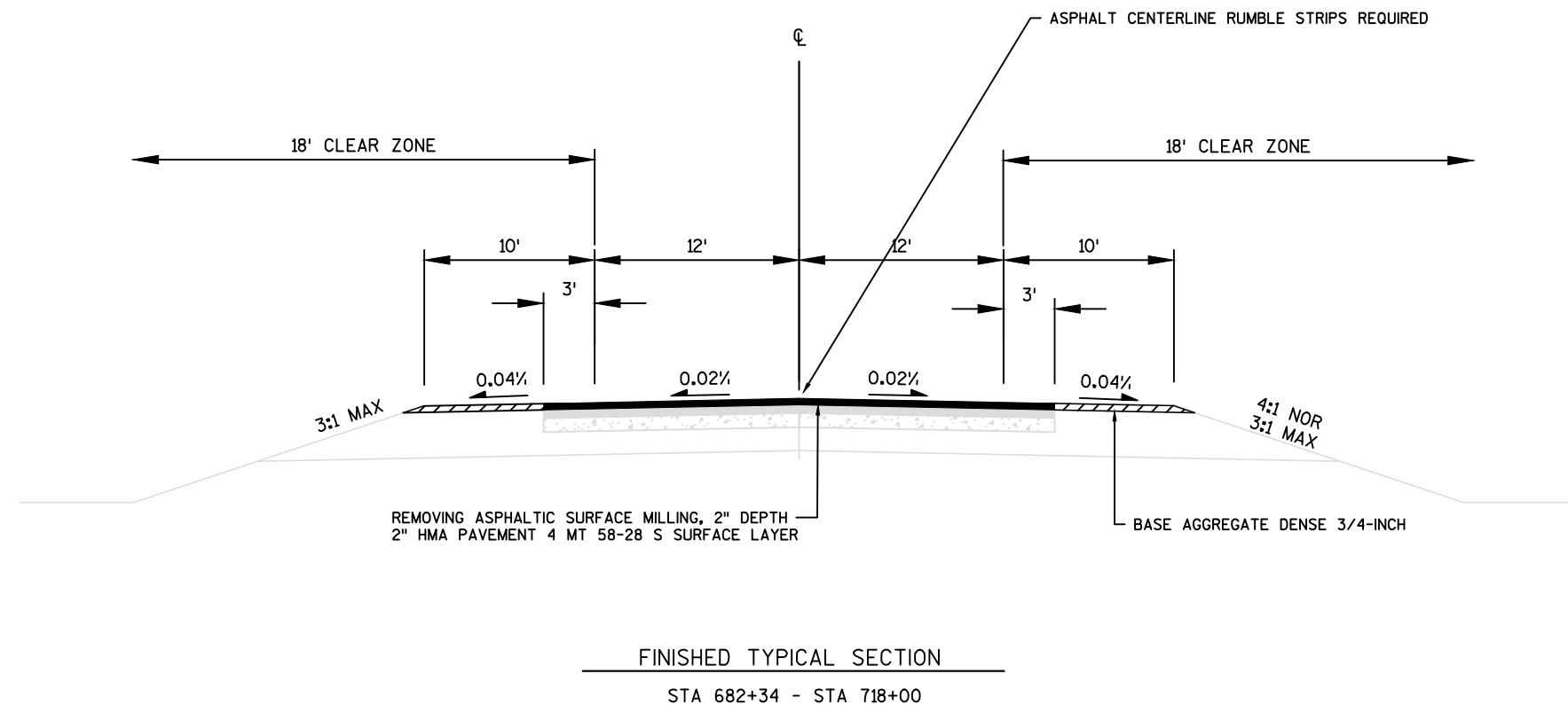
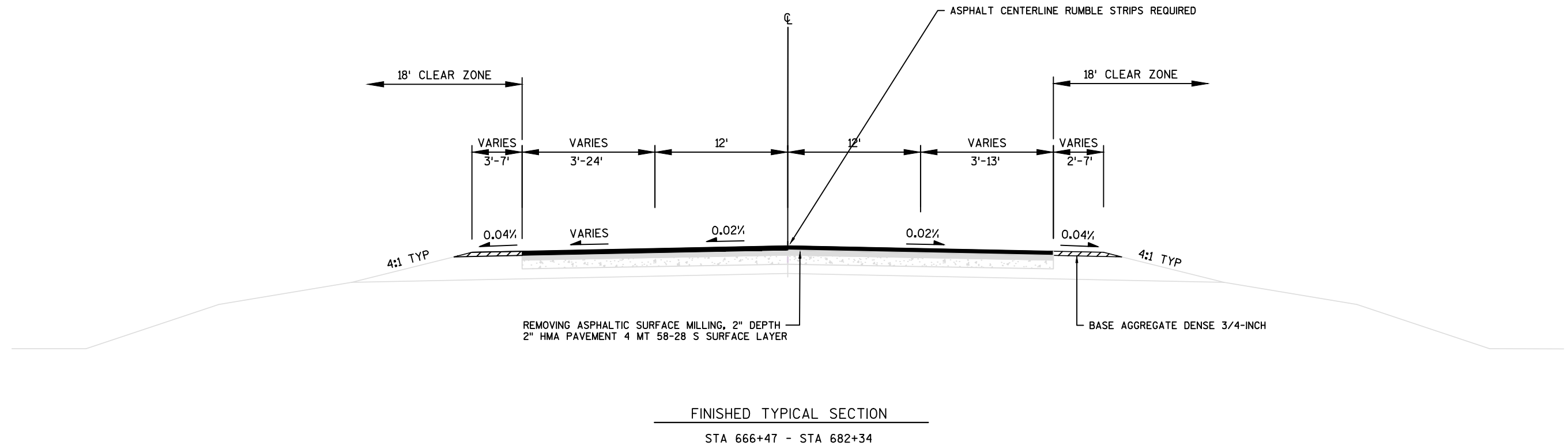
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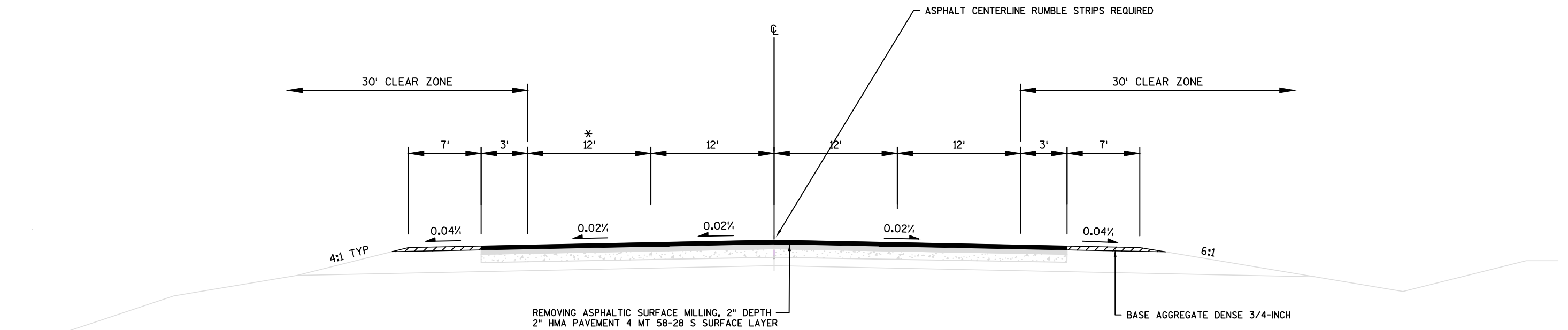
STA 8+98 - STA 10+00 (CTH L)



FINISHED TYPICAL SECTION

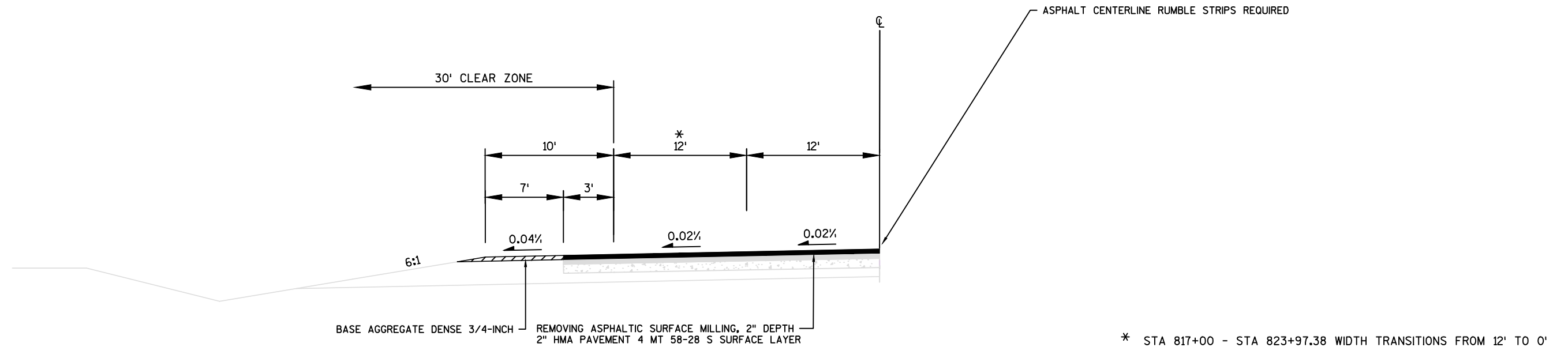
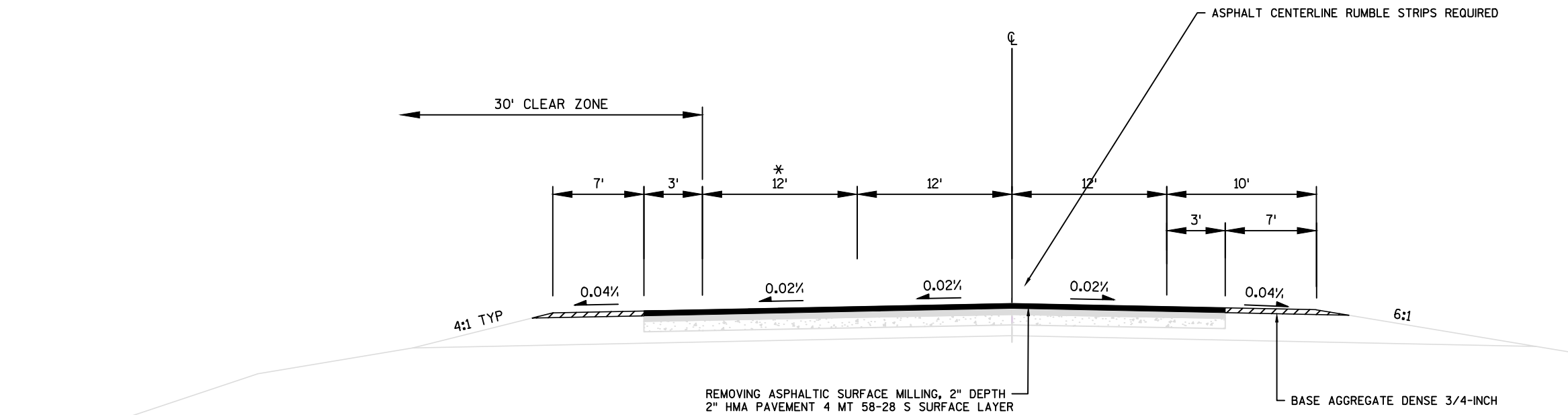
STA 663+06.50 - STA 666+47





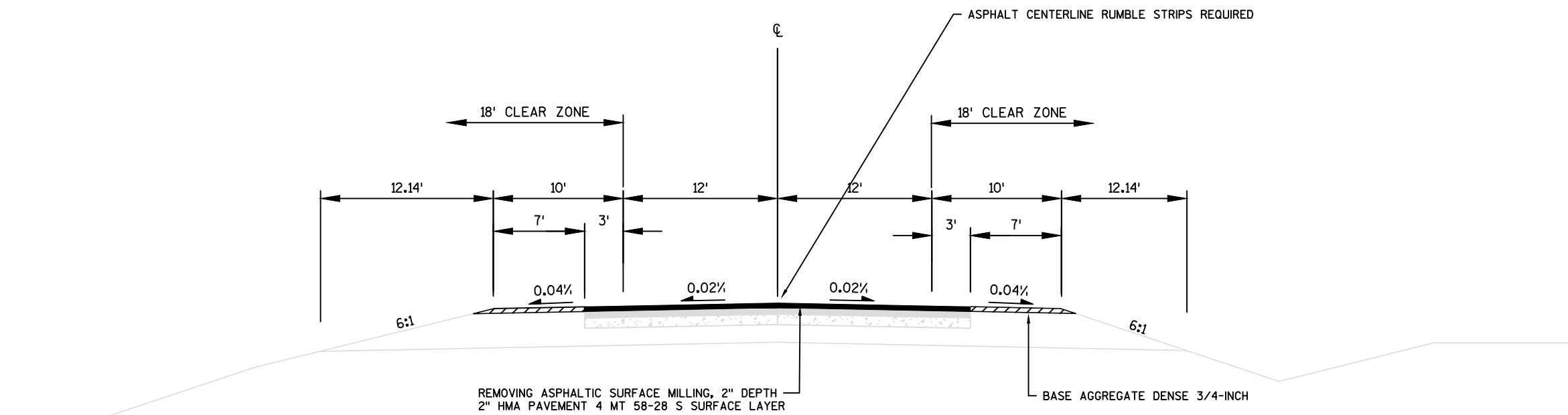
FINISHED TYPICAL SECTION
STA 718+00 - STA 790+00

* STA 718+00 - STA 725+00 WIDTH TRANSITIONS FROM 0' TO 12'



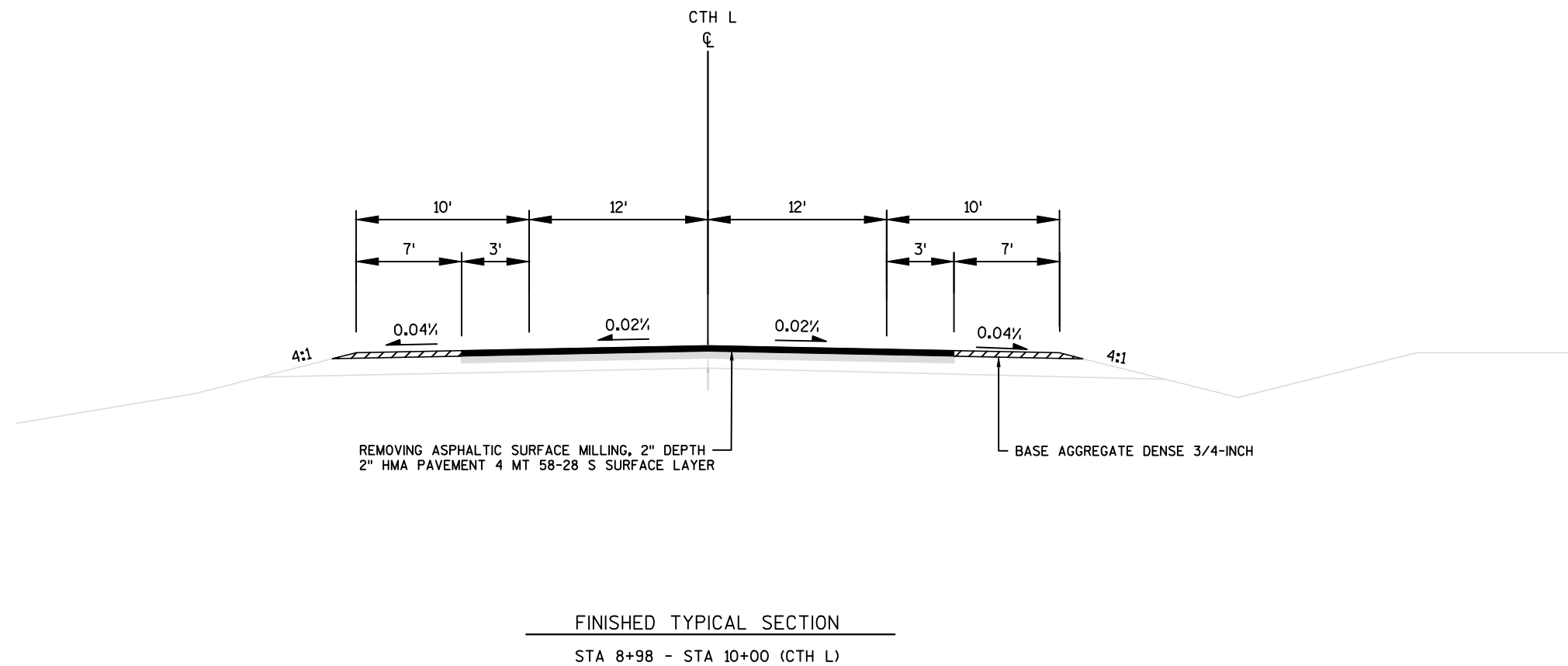
FINISHED TYPICAL SECTION

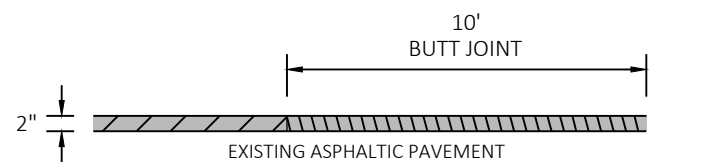
STA 790+00 - STA 832+97.38



FINISHED TYPICAL SECTION

STA 832+97.38 - STA 849+00

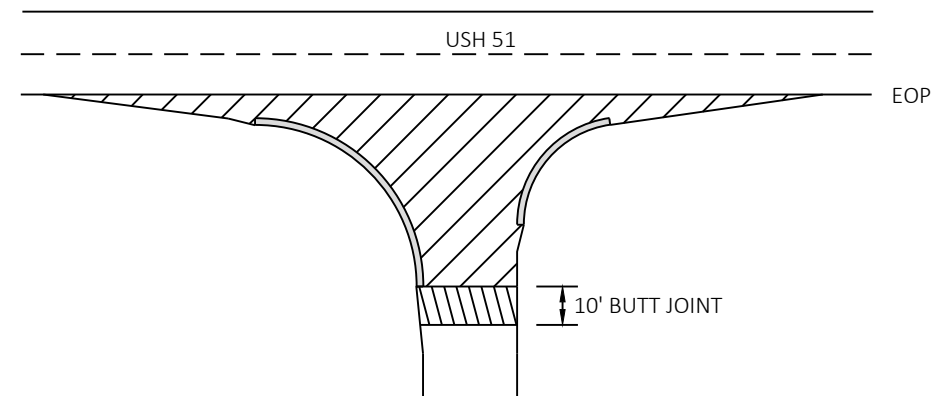




- HMA PAVEMENT
- REMOVING ASPHALTIC SURFACE MILLING
- REMOVING ASPHALTIC SURFACE BUTT JOINTS

BUTT JOINT

STA 663+06 - STA 663+16
STA 848+90 - STA 849+00



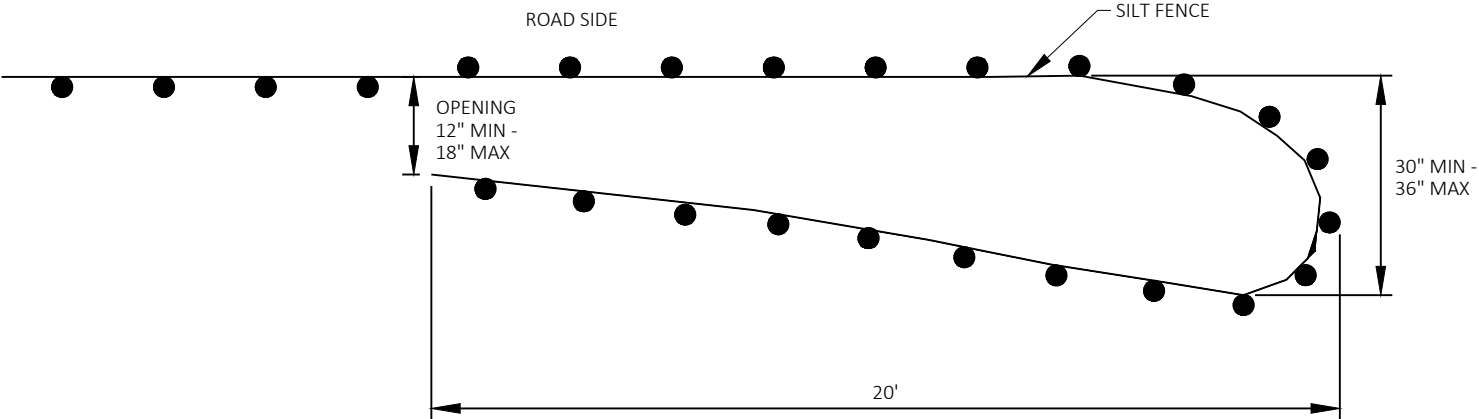
- REMOVING ASPHALTIC SURFACE MILLING
- REMOVING ASPHALTIC SURFACE BUTT JOINTS
SEE BUTT JOINT DETAIL

NOTE: WHEN MATCHING TO AN UNPAVED SURFACE
BUTT JOINT IS NOT REQUIRED

SIDE ROADS

WITH CURB AND GUTTER

CTH L: STA 8+98 - STA 10+00
CTH K (WEST): STA 9+15 - STA 9+25
CTH K (EAST): STA 10+72 - STA 10+82
FERNWOOD RD (WEST): STA 9+05 - STA 9+15
FERNWOOD RD (EAST): STA 10+80 - STA 10+90
ROCKY RUN RD (WEST): STA 9+16 - STA 9+26
ROCKY RUN RD (EAST): STA 10+76 - STA 10+86



PLAN VIEW

GENERAL NOTES:

- FOR THE TURN-AROUND SILT FENCE AND POSTS
- PLACE POSTS ON THE OUTSIDE OF THE TURN-AROUND
 - TRENCH SILT FENCE ACCORDING TO SILT FENCE REQUIREMENTS

TEMPORARY SMALL ANIMAL TURN-AROUND

STA 707+50 LT
STA 708+15 LT
STA 708+45 LT
STA 712+50 LT
STA 707+50 RT
STA 712+50 RT



Estimate Of Quantities

1170-16-71					
Line	Item	Item Description	Unit	Total	Qty
0002	204.0115	Removing Asphaltic Surface Butt Joints	SY	313.000	313.000
0004	204.0120	Removing Asphaltic Surface Milling	SY	82,815.000	82,815.000
0006	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 1170-16-71	LS	1.000	1.000
0008	213.0100	Finishing Roadway (project) 01. 1170-16-71	EACH	1.000	1.000
0010	305.0110	Base Aggregate Dense 3/4-Inch	TON	2,452.000	2,452.000
0012	455.0605	Tack Coat	GAL	5,797.000	5,797.000
0014	460.2000	Incentive Density HMA Pavement	DOL	6,100.000	6,100.000
0016	460.6224	HMA Pavement 4 MT 58-28 S	TON	9,523.000	9,523.000
0018	465.0110	Asphaltic Surface Patching	TON	50.000	50.000
0020	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	15,855.000	15,855.000
0022	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1170-16-71	EACH	1.000	1.000
0024	619.1000	Mobilization	EACH	1.000	1.000
0026	624.0100	Water	MGAL	492.000	492.000
0028	628.1504	Silt Fence	LF	1,090.000	1,090.000
0030	628.1520	Silt Fence Maintenance	LF	1,090.000	1,090.000
0032	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0034	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0036	629.0210	Fertilizer Type B	CWT	5.300	5.300
0038	630.0130	Seeding Mixture No. 30	LB	78.000	78.000
0040	630.0500	Seed Water	MGAL	180.000	180.000
0042	642.5001	Field Office Type B	EACH	1.000	1.000
0044	643.0300	Traffic Control Drums	DAY	819.000	819.000
0046	643.0420	Traffic Control Barricades Type III	DAY	57.000	57.000
0048	643.0705	Traffic Control Warning Lights Type A	DAY	114.000	114.000
0050	643.0900	Traffic Control Signs	DAY	550.000	550.000
0052	643.5000	Traffic Control	EACH	1.000	1.000
0054	646.1020	Marking Line Epoxy 4-Inch	LF	23,131.000	23,131.000
0056	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	38,823.000	38,823.000
0058	646.3040	Marking Line Grooved Wet Ref Epoxy 8-Inch	LF	1,772.000	1,772.000
0060	646.5020	Marking Arrow Epoxy	EACH	2.000	2.000
0062	646.5120	Marking Word Epoxy	EACH	1.000	1.000
0064	646.6120	Marking Stop Line Epoxy 18-Inch	LF	52.000	52.000
0066	646.7120	Marking Diagonal Epoxy 12-Inch	LF	86.000	86.000
0068	648.0100	Locating No-Passing Zones	MI	3.520	3.520
0070	649.0105	Temporary Marking Line Paint 4-Inch	LF	21,421.000	21,421.000
0072	649.0120	Temporary Marking Line Epoxy 4-Inch	LF	20,658.000	20,658.000
0074	650.8000	Construction Staking Resurfacing Reference	LF	18,594.000	18,594.000
0076	650.9910	Construction Staking Supplemental Control (project) 01.	LS	1.000	1.000

Estimate Of Quantities

1170-16-71					
Line	Item	Item Description	Unit	Total	Qty
1170-16-71					
0078	740.0440	Incentive IRI Ride	DOL	7,042.000	7,042.000
0080	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0082	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000
0084	SPV.0180	Special 01. Protective Thermoplastic Coating At Snowmobile Trail Crossings	SY	107.000	107.000

3

REMOVING ASPHALTIC SURFACE MILLING

<u>REMOVING ASPHALTIC SURFACE MILLING</u>					204.0115	
					REMOVING ASPHALTIC SURFACE BUTT JOINTS (SY)	204.0120 REMOVING ASPHALTIC SURFACE MILLING (SY)
STATION	STATION	LOCATION	COMMENTS		(SY)	(SY)
663+06	-	849+00	USH 51	MAINLINE, TURN LANES, PAVED SHOULDERS	-	80255
663+06	-	663+16	USH 51	BEGIN PROJECT	49	-
848+90	-	849+00	USH 51	END PROJECT	33	-
CTH L		LT	SIDE ROAD WITHIN C&G LIMITS		33	608
CTH K (WEST)		LT	SIDE ROAD WITHIN C&G LIMITS		31	306
CTH K (EAST)		RT	SIDE ROAD WITHIN C&G LIMITS		37	313
FERNWOOD ROAD (WEST)		LT	SIDE ROAD WITHIN C&G LIMITS		33	330
FERNWOOD ROAD (EAST)		RT	SIDE ROAD WITHIN C&G LIMITS		32	341
ROCKY RUN ROAD (WEST)		LT	SIDE ROAD WITHIN C&G LIMITS		31	334
ROCKY RUN ROAD (EAST)		RT	SIDE ROAD WITHIN C&G LIMITS		34	328
TOTALS:					313	82815

HMA PAVEMENT

				460.6224		465.0110
				455.0605 TACK COAT (GAL)	HMA PAVEMENT 4 MT 58-28 S (TON)	ASPHALTIC SURFACE PATCHING (TON)
STATION	STATION	LOCATION	COMMENTS			
663+06	-	849+00	USH 51	MAINLINE, TURN LANES, PAVED SHOULDERS	5618	9229
CTH L		LT	SIDE ROAD WITHIN C&G LIMITS	43	70	
CTH K (WEST)		LT	SIDE ROAD WITHIN C&G LIMITS	21	35	
CTH K (EAST)		RT	SIDE ROAD WITHIN C&G LIMITS	22	36	
FERNWOOD ROAD (WEST)		LT	SIDE ROAD WITHIN C&G LIMITS	23	38	
FERNWOOD ROAD (EAST)		RT	SIDE ROAD WITHIN C&G LIMITS	24	39	
ROCKY RUN ROAD (WEST)		LT	SIDE ROAD WITHIN C&G LIMITS	23	38	
ROCKY RUN ROAD (EAST)		RT	SIDE ROAD WITHIN C&G LIMITS	23	38	
UNDISTRIBUTED			AS NEEDED			50
TOTALS:				5797	9523	50

PREPARE FOUNDATION FOR ASPHALTIC PAVING

		211.0100
		PREPARE FOUNDATION FOR ASPHALTIC PAVING (1170-16-71)
LOCATION	(LS)	
PROJECT LIMITS	1	
	1	

BASE AGGREGATE DENSE

				305.0110	
				BASE AGGREGATE DENSE 3/4-INCH (TON)	WATER 624.0100 (MGAL)
STATION	STATION	LOCATION			
USH 51					
663+06	-	849+00	LT SHOULDER	1208	242
663+06	-	849+00	RT SHOULDER	1233	247
SIDE ROADS					
CTH L		END OF SIDE ROADS		3	1
CTH K		END OF SIDE ROADS		3	1
FERNWOOD ROAD		END OF SIDE ROADS		3	1
ROCKY RUN ROAD		END OF SIDE ROADS		3	1
				2452	492

RUMBLE STRIPS

				465.0475
				ASPHALTIC CENTERLINE RUMBLE STRIP 2-LANE RURAL (LF)
STATION	-	STATION	LOCATION	
671+70	-	687+00	CL	1530
691+70	-	701+58	CL	988
703+58	-	705+68	CL	210
707+58	-	735+20	CL	2762
735+35	-	744+64	CL	929
746+64	-	773+12	CL	2648
777+12	-	826+92	CL	4980
830+92	-	849+00	CL	1808
TOTAL:				15855

MAINTENANCE AND REPAIR OF HAUL ROADS

		618.0100
		MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 1170-16-71 (EACH)
LOCATION		
PROJECT LIMITS	1	
	1	

3

3

EROSION CONTROL

				628.1504	628.1520	628.1905	628.1910
				SILT	SILT	MOBILIZATIONS	MOBILIZATIONS
				FENCE	FENCE	EROSION	EROSION
				(LF)	(LF)	(EACH)	(EACH)
STATION	STATION	LOCATION	COMMENTS				
PROJECT LIMITS		USH 51	AS NEEDED	-	-	2	2
707+50	-	708+15	30' LT	TEMP TURTLE FENCING	105	105	-
708+45	-	712+50	30' LT	TEMP TURTLE FENCING	445	445	-
707+50	-	712+50	30' RT	TEMP TURTLE FENCING	540	540	-
TOTALS:				1090	1090	2	2

LANDSCAPING

			629.0210	630.0130	630.0500
			FERTILIZER	SEEDING	SEED
			TYPE B	MIXTURE	SEED
			(CWT)	NO. 30	WATER
STATION	STATION	LOCATION		(LB)	(MGAL)
663+06	-	849+00	INSLOPE, LT SHOULDER	2.5	88.3
663+06	-	849+00	INSLOPE, RT SHOULDER	2.6	90.1
UNDISTRIBUTED			0.2	1.2	1.6
			5.3	78	180

3

FIELD OFFICE TYPE B

	642.5001
	FIELD
	OFFICE
	TYPE B
LOCATION	(LS)
PROJECT LIMITS	1
	1

TRAFFIC CONTROL

		643.0705			
	643.0420	TRAFFIC	643.0900		
	TRAFFIC	CONTROL	TRAFFIC	643.5000	
	CONTROL	BARRICADES	WARNING	CONTROL	TRAFFIC
	DRUMS	TYPE III	TYPE A	SIGNS	CONTROL
LOCATION	(DAY)	(DAY)	(DAY)	(DAY)	(EACH)
PROJECT LIMITS	819	57	114	550	1
TOTALS :	819	57	114	550	1

PERMANENT PAVEMENT MARKING

			646.1040	646.3040				646.6120		
			MARKING	MARKING				MARKING	646.7120	
	646.1020		LINE	LINE				MARKING	MARKING	648.0100
	MARKING	GROOVED	GROOVED	GROOVED	646.5020	646.5120		STOP	DIAGONAL	LOCATING
	LINE	WET REF	WET REF	WET REF	MARKING	MARKING		LINE	EPOXY	NO-PASSING
	EPOXY	EPOXY	EPOXY	EPOXY	ARROW	WORD		EPOXY	EPOXY	ZONES
	4-INCH	4-INCH	8-INCH	8-INCH	EPOXY	EPOXY		18-INCH	12-INCH	(MI)
	YELLOW	WHITE	WHITE	WHITE	WHITE	("ONLY")		WHITE	WHITE	
STATION	-	STATION	LOCATION	(LF)	(LF)	(LF)	(EACH)	(EACH)	(LF)	(LF)
USH 51		PROJECT LIMITS		-	-	-	-	-	-	3.52
663+06	-	667+90	CL	605	982	-	-	-	-	-
667+90	-	675+95	CL	1610	1578	528	2	1	-	86
675+95	-	687+10	CL	1394	2228	77	-	-	-	-
687+10	-	710+85	CL	594	4484	307	-	-	-	-
710+85	-	715+33	CL	560	898	-	-	-	-	-
715+33	-	736+18	CL	4170	4426	-	-	-	-	-
736+18	-	753+00	CL	2103	3773	-	-	-	-	-
753+00	-	772+90	CL	3980	4481	46	-	-	-	-
772+90	-	829+61	CL	7089	12062	538	-	-	-	-
829+61	-	845+00	CL	385	3074	200	-	-	-	-
845+00	-	849+00	CL	475	800	-	-	-	-	-
CTH L (WEST)		LT		126	37	76	-	-	37	-
CTH K (EAST)		RT		40	-	-	-	-	15	-
TOTALS:				23131	38823	1772	2	1	52	86

PROJECT NO: 1170-16-71

HWY: USH 51

COUNTY: ONEIDA

MISCELLANEOUS QUANTITIES

SHEET

E

TEMPORARY PAVEMENT MARKING

				649.0105 TEMPORARY MARKING LINE PAINT 4-INCH YELLOW (LF)	649.0105 TEMPORARY MARKING LINE PAINT 4-INCH WHITE (LF)	649.0120 TEMPORARY MARKING LINE EPOXY 4-INCH YELLOW (LF)
STATION	-	STATION	LOCATION			
663+06	-	667+90	CL	523	-	523
667+90	-	675+95	CL	1610	-	1610
675+95	-	687+10	CL	1204	-	1204
687+10	-	710+85	CL	190	-	190
710+85	-	715+23	CL	484	-	484
715+23	-	736+18	CL	4170	-	4170
736+18	-	753+00	CL	1817	-	1817
753+00	-	772+90	CL	3980	-	3980
772+90	-	829+61	CL	6125	-	6125
829+61	-	845+00	CL	123	-	123
845+00	-	849+00	CL	432	-	432
667+60 (NB)	-	671+10 (NB)	LANE LINES	-	27	-
725+00 (SB)	-	817+00 (SB)	LANE LINES	-	736	-
SUB-TOTALS:				20658	763	20658
TOTALS:				21421		20658

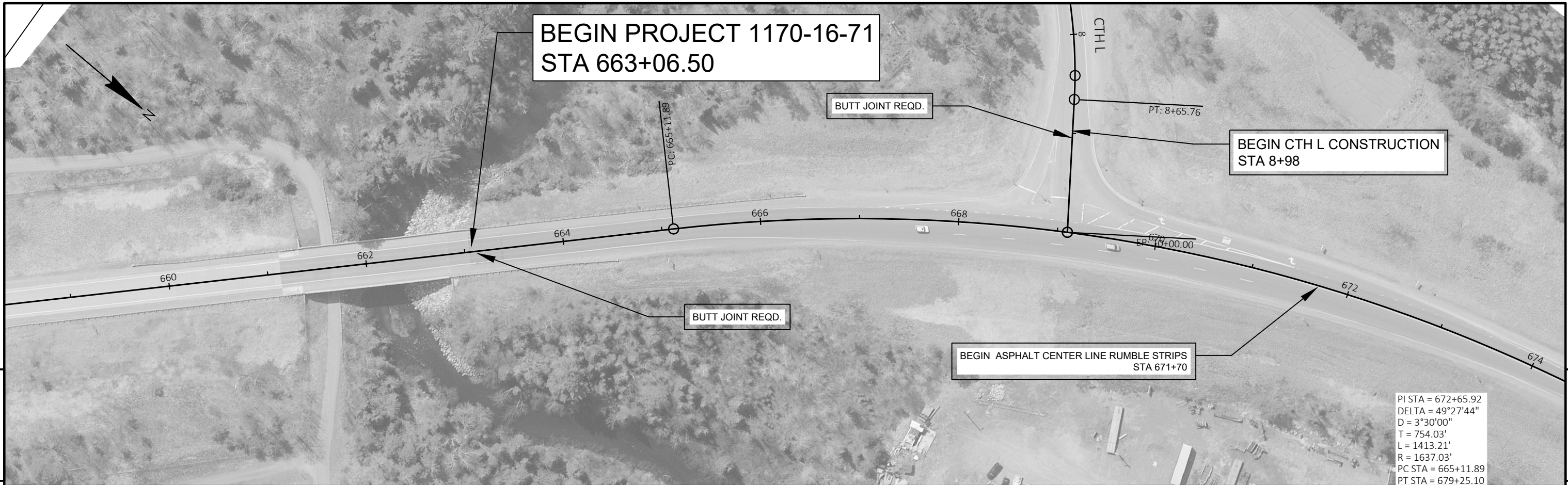
TEMPORARY PAINT ON MILLED SURFACES.
TEMPORARY EPOXY AT CL ON NEW HMA, PRIOR TO CL RUMBLE STRIPS INSTALLATION.
PERMANENT MARKING APPLIED TO CL AFTER CUTTING RUMBLE STRIPS.

CONSTRUCTION STAKING

		650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE (LF)	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 1170-16-71 (LS)
STATION	STATION		
663+06	849+00	18594	1
		18594	1

PROTECTIVE THERMOPLASTIC COATING

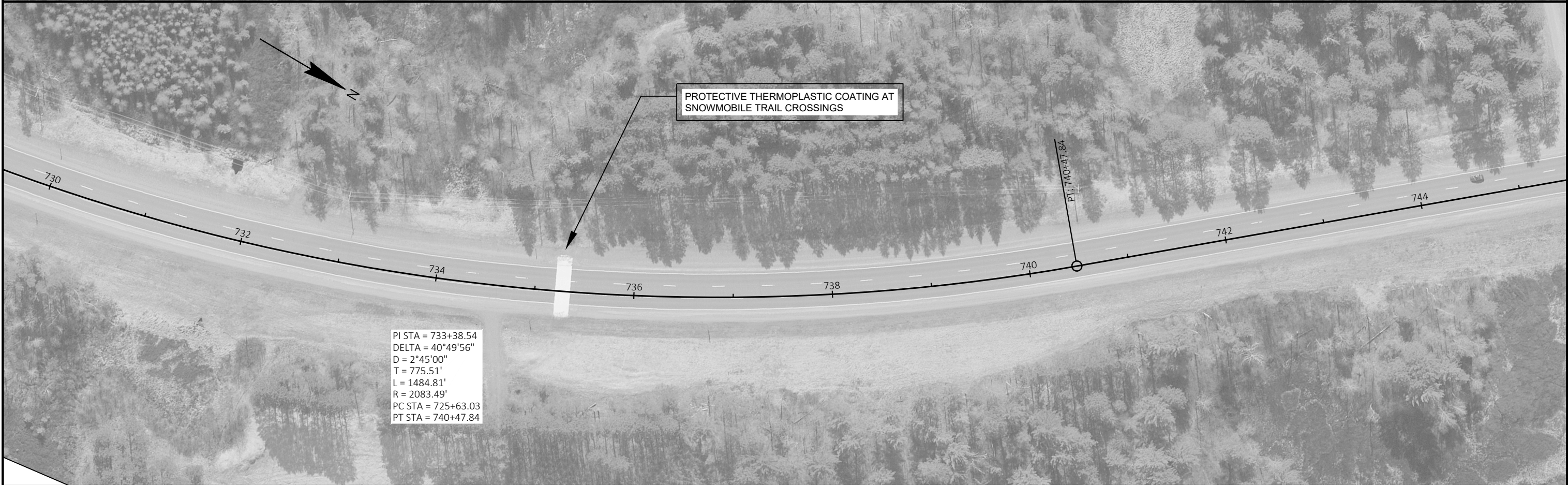
			SPV.0180 PROTECTIVE THERMOPLASTIC COATING AT SNOWMOBILE TRAIL CROSSINGS (SY)
STATION	STATION	LOCATION	
735+20	-	735+35 USH 51 ROADWAY WIDTH	107
TOTALS:			107



PROJECT NO: 1170-16-71	HWY: USH 51	COUNTY: ONEIDA COUNTY	LINE DIAGRAM (USH 51)	SHEET	E
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PROJECT NO: 1170-16-71	HWY: USH 51	COUNTY: ONEIDA COUNTY	LINE DIAGRAM (USH 51)	SHEET	E
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PROJECT NO: 1170-16-71	HWY: USH 51	COUNTY: ONEIDA COUNTY	LINE DIAGRAM (USH 51)	SHEET	E
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5

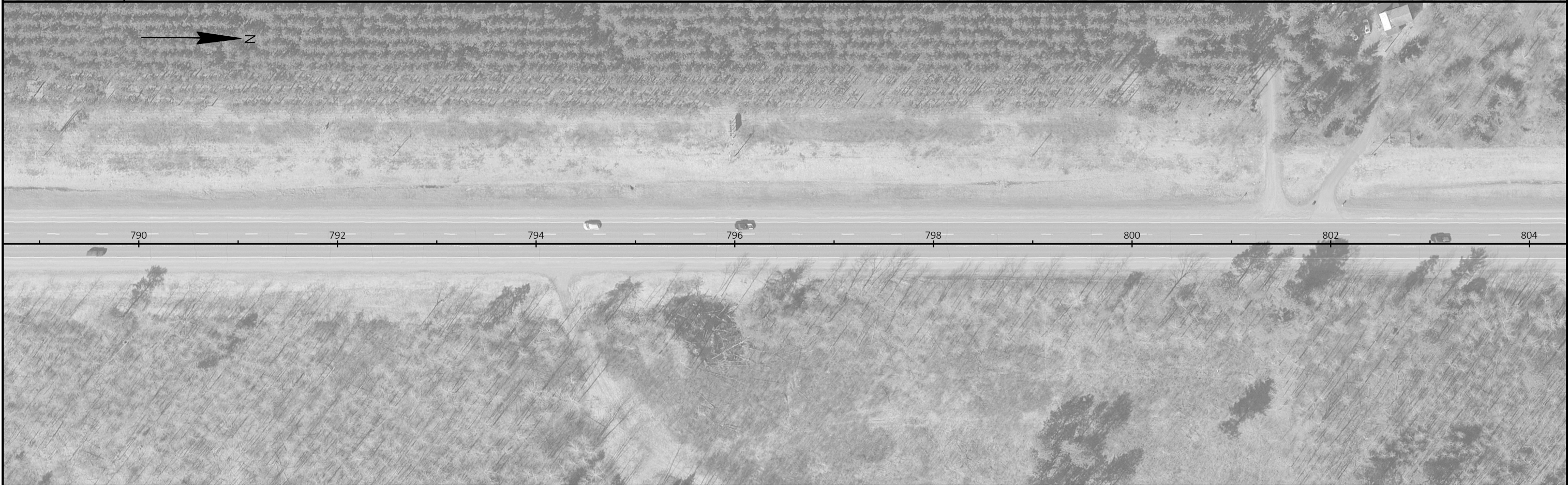
5



PI STA = 768+37.07
DELTA = 39°51'29"
D = 2°45'00"
T = 755.41'
L = 1449.39'
R = 2083.49'
PC STA = 760+81.66
PT STA = 775+31.05

FERNWOOD RD

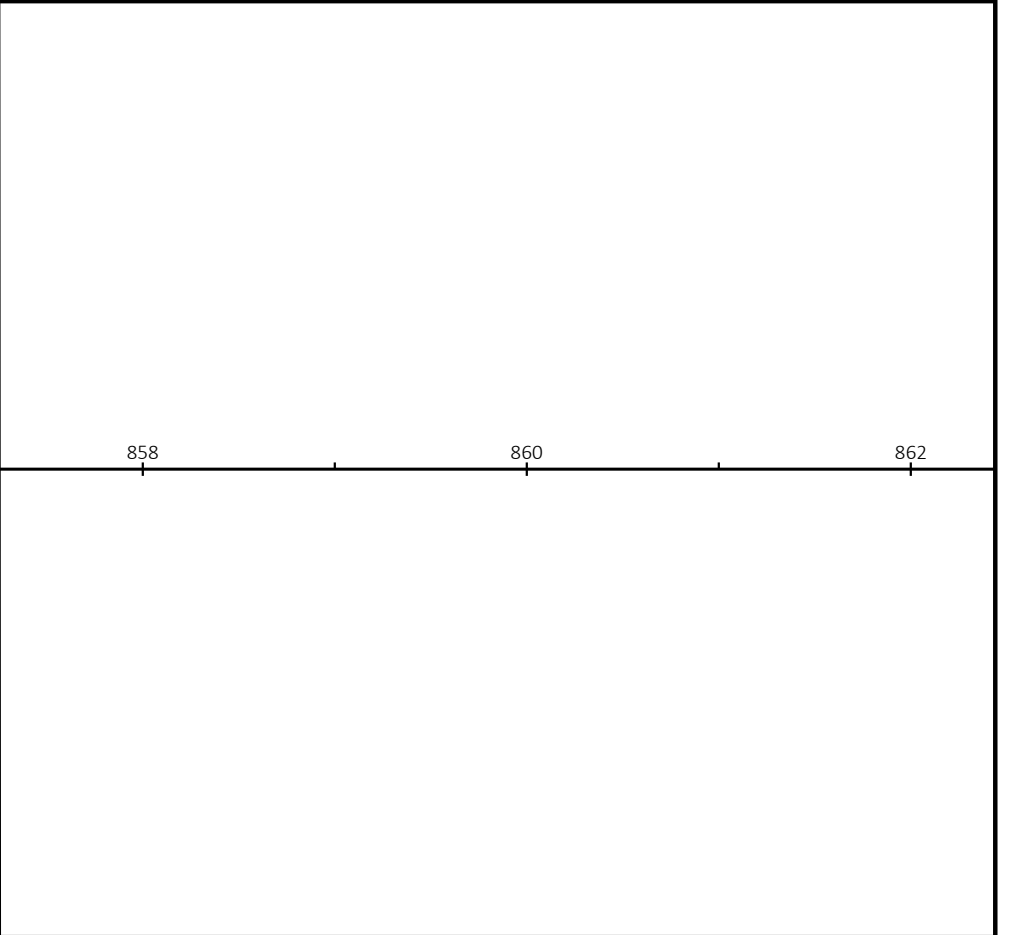
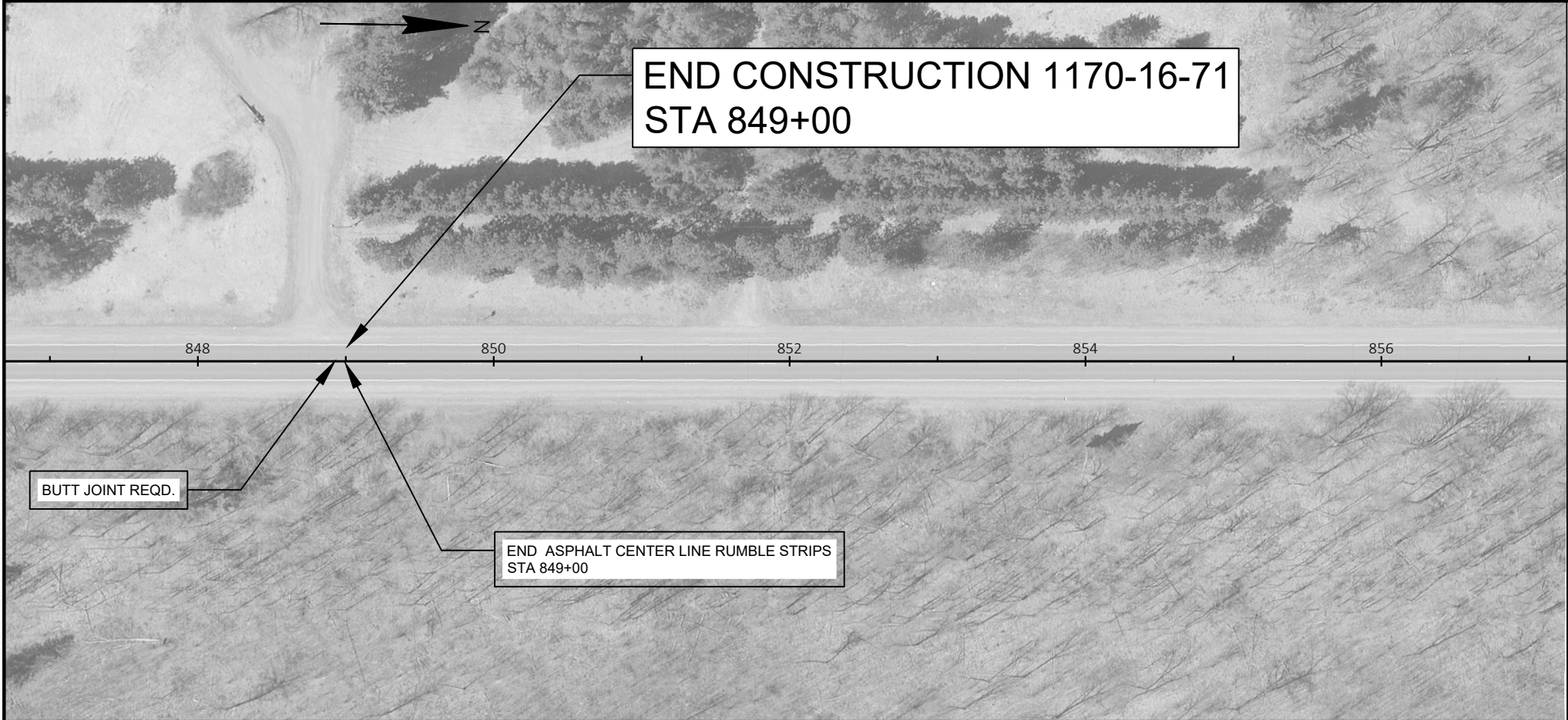
PROJECT NO: 1170-16-71	HWY: USH 51	COUNTY: ONEIDA COUNTY	LINE DIAGRAM (USH 51)	SHEET	E
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PROJECT NO: 1170-16-71	HWY: USH 51	COUNTY: ONEIDA COUNTY	LINE DIAGRAM (USH 51)	SHEET	E
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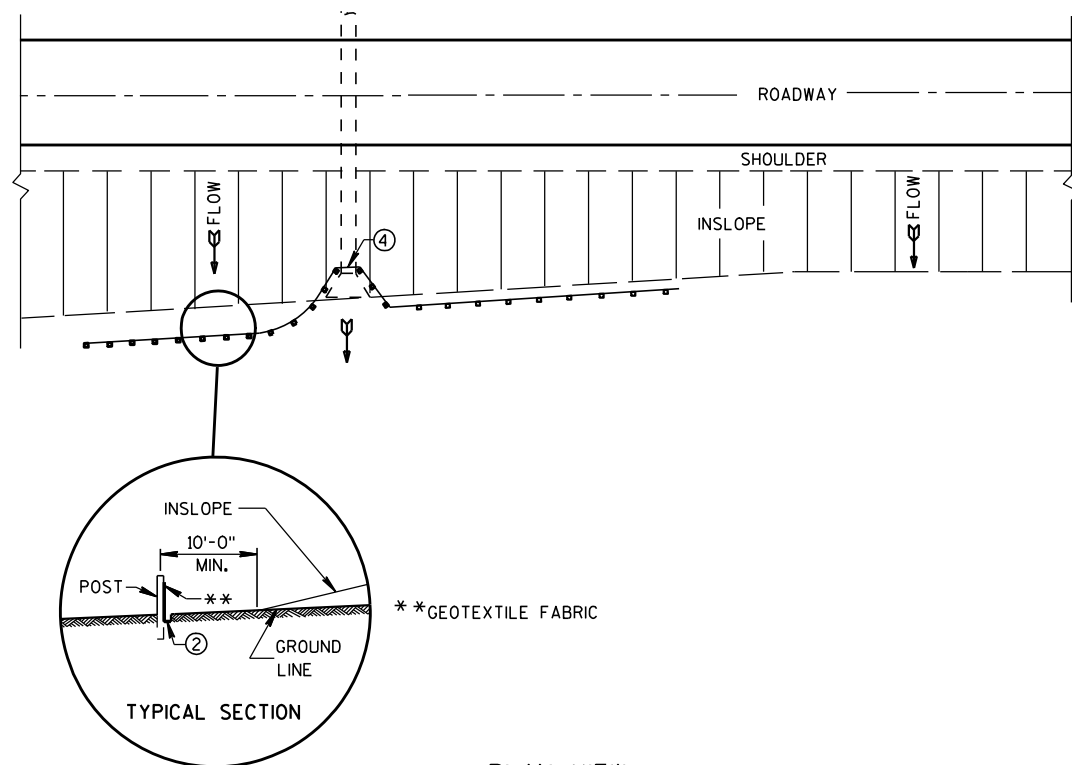
PROJECT NO: 1170-16-71	HWY: USH 51	COUNTY: ONEIDA COUNTY	LINE DIAGRAM (USH 51)	SHEET	E
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PROJECT NO: 1170-16-71	HWY: USH 51	COUNTY: ONEIDA COUNTY	LINE DIAGRAM (USH 51)	SHEET	E
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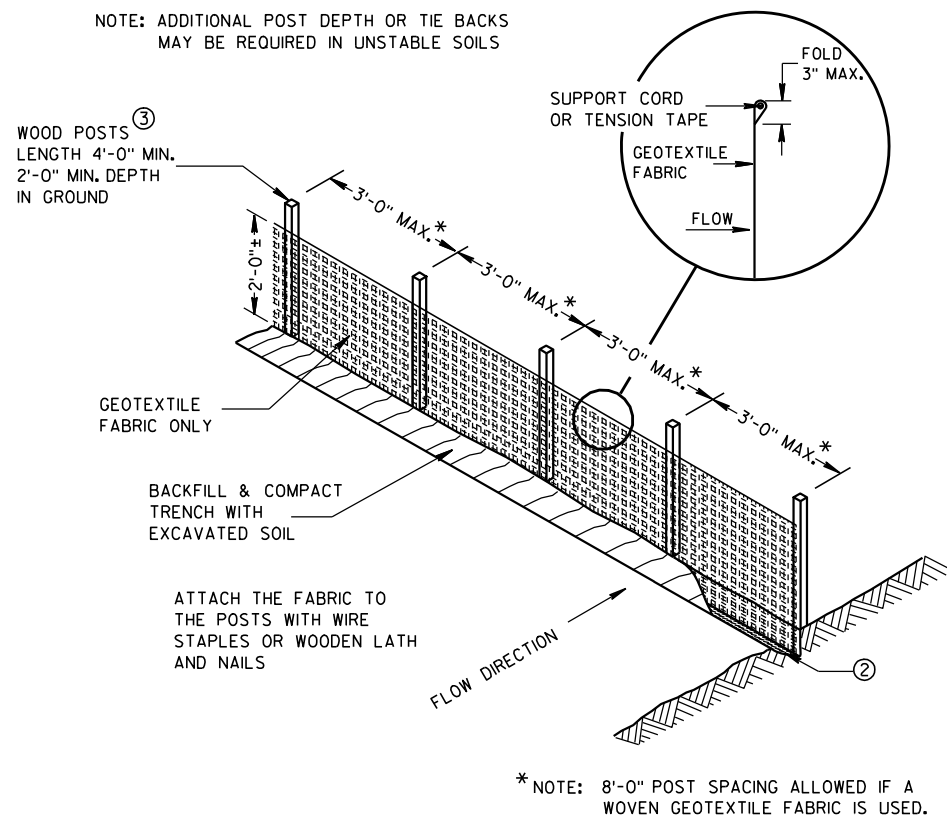
Standard Detail Drawing List

08E09-06	SILT FENCE
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
14B29-01	SAFETY EDGE
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C07-15B	PAVEMENT MARKING WORDS
15C07-15C	PAVEMENT MARKING ARROWS
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C08-20B	PAVEMENT MARKING (TURN LANES)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-07	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-06A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C19-06B	MOVING PAVEMENT MARKING OPERATION MULTI-LANE UNDIVIDED ROADWAY
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-04A	PAVEMENT MARKING (INTERSECTIONS)
15C35-04B	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15C35-04C	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

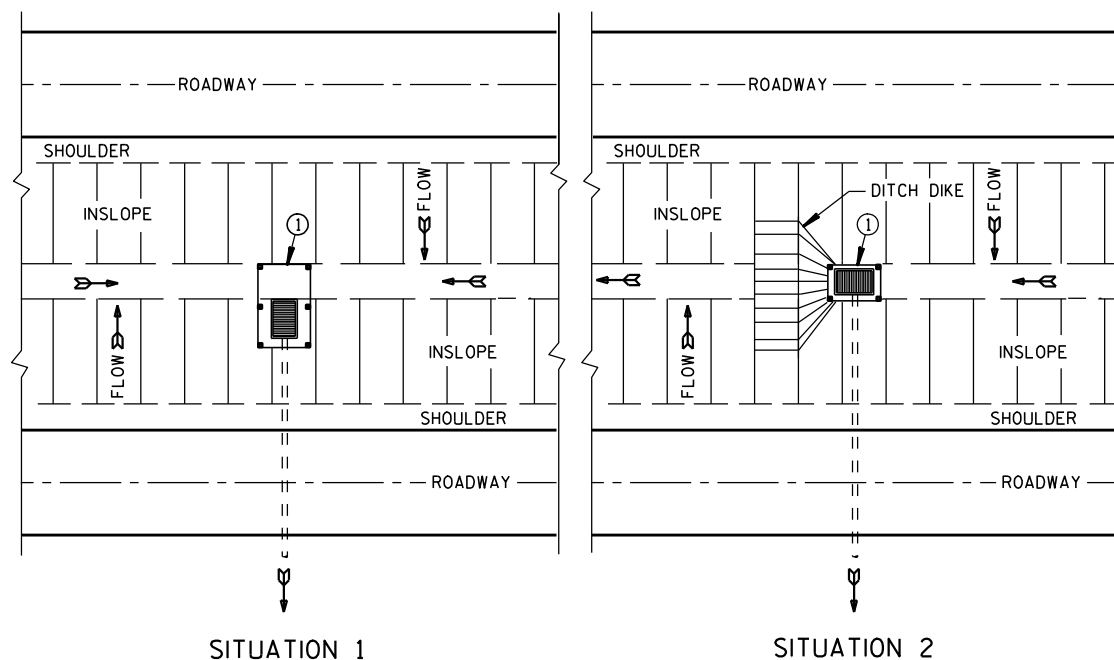


TYPICAL APPLICATION OF SILT FENCE

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

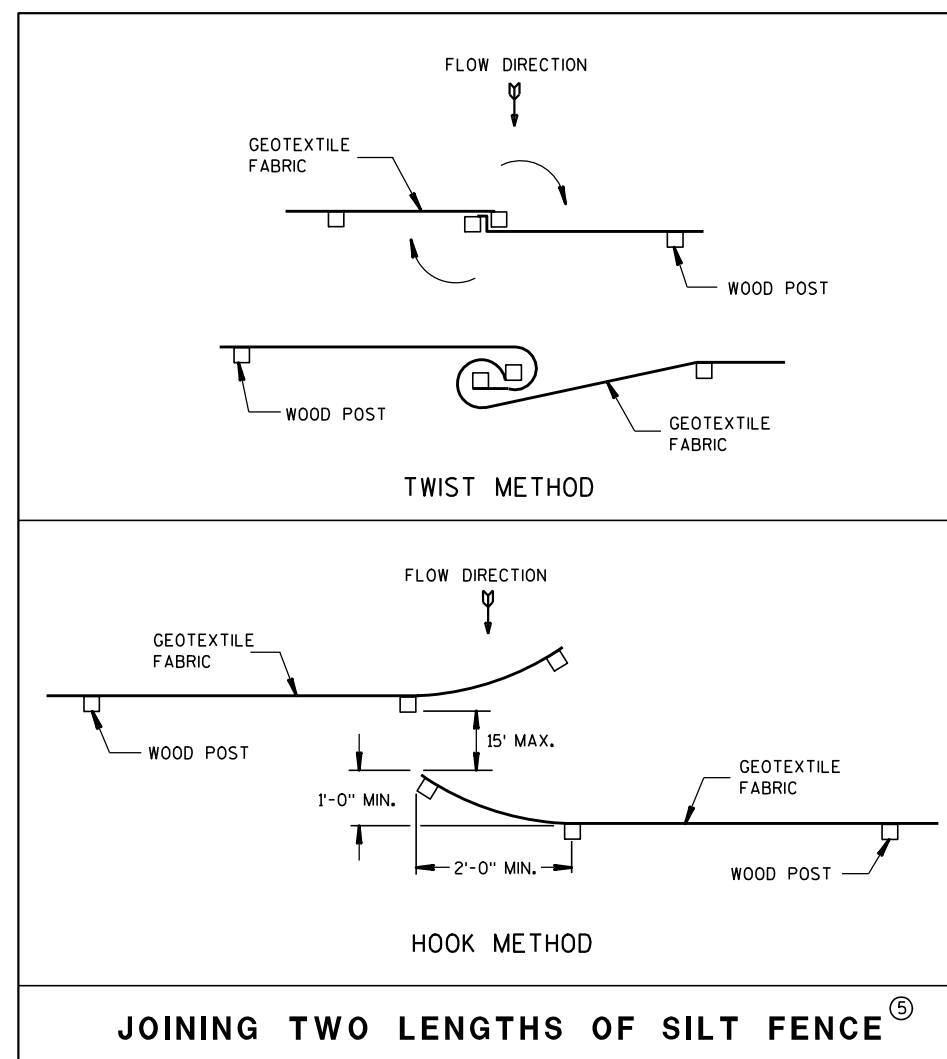


SILT FENCE



PLAN VIEW

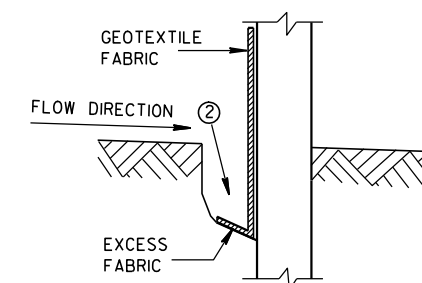
SILT FENCE AT MEDIAN SURFACE DRAINS



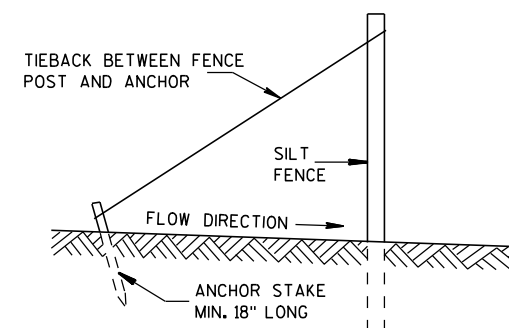
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

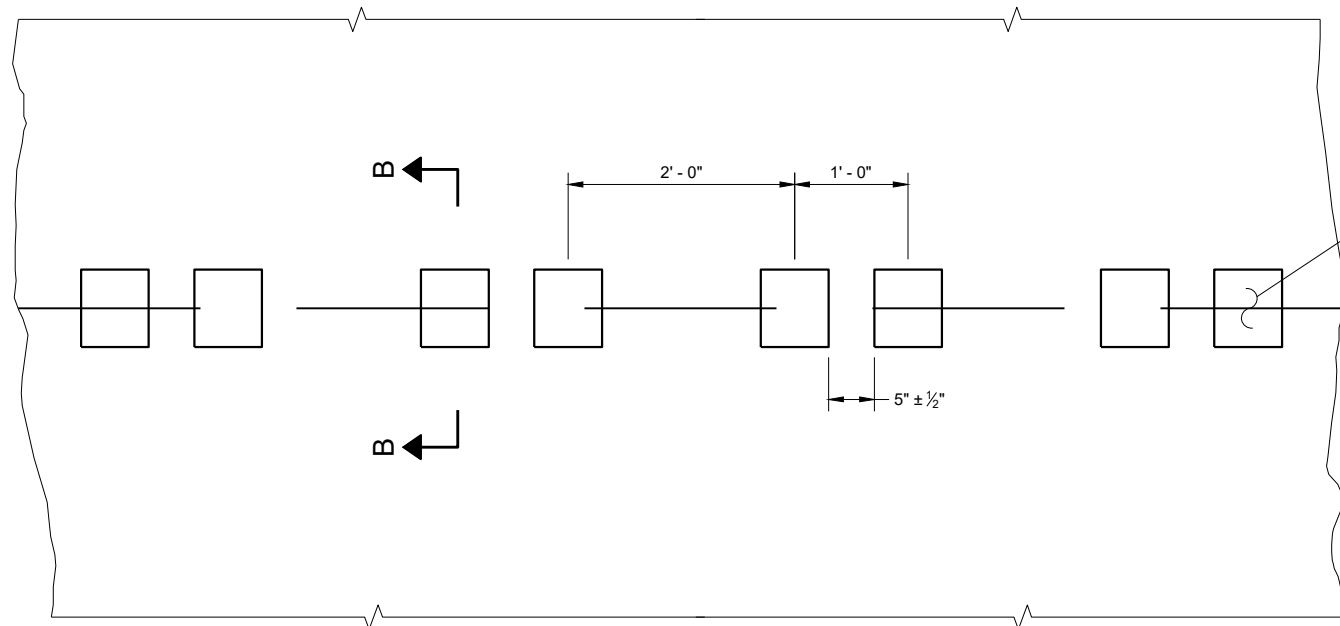
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-29-05
DATE

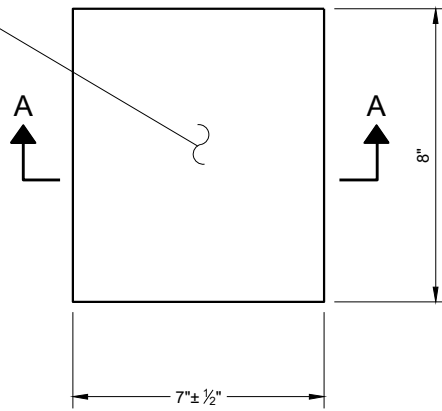
FHWA

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



PLAN VIEW
SHOULDER WITH GROOVES

PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

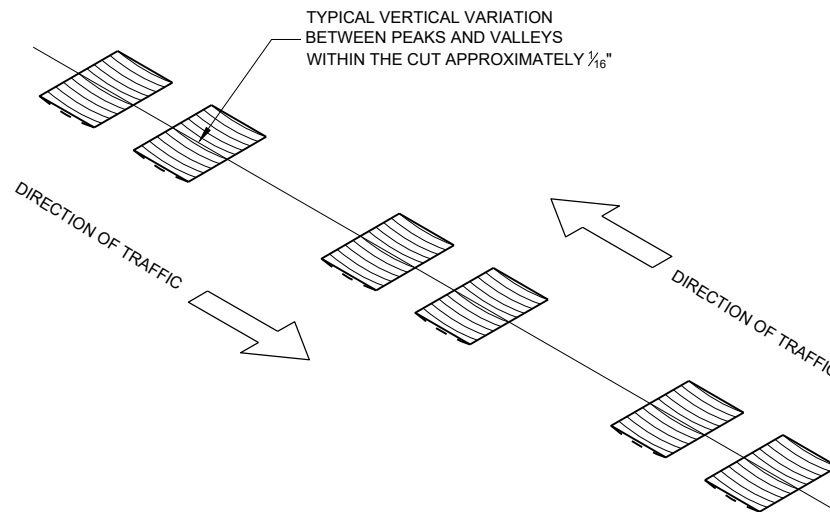
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL CENTERLINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

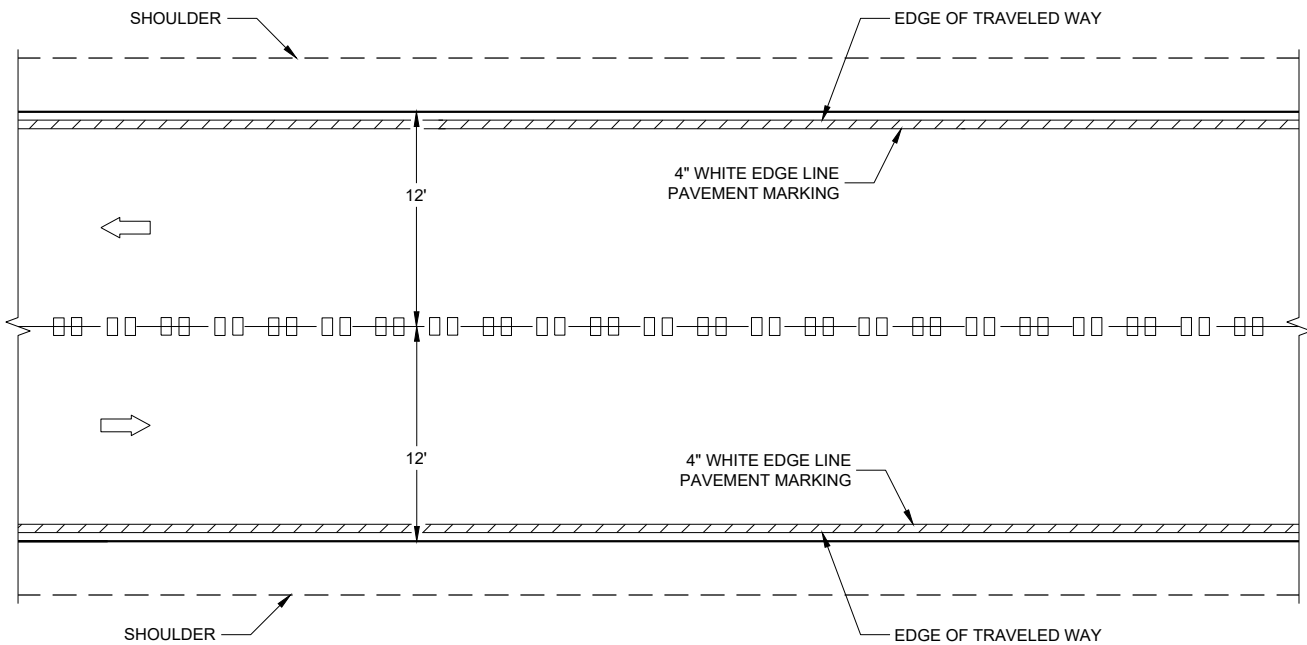
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

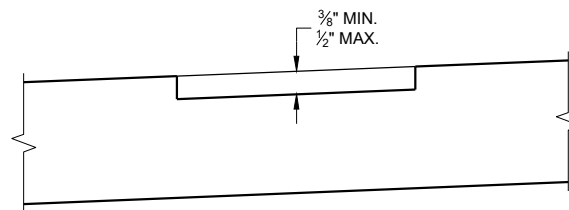
- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



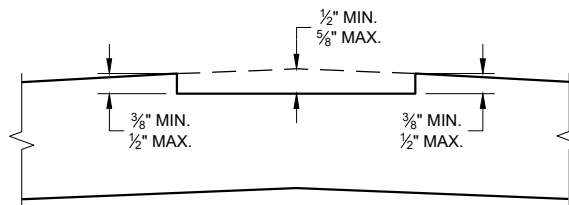
ISOMETRIC



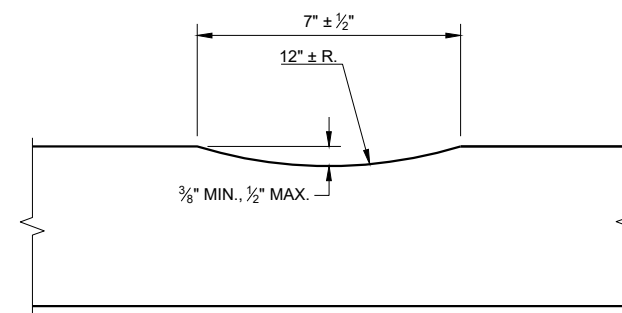
CENTERLINE GROOVES ON TWO-WAY ROADWAYS



SECTION B - B
SUPERELEVATED ROADWAY



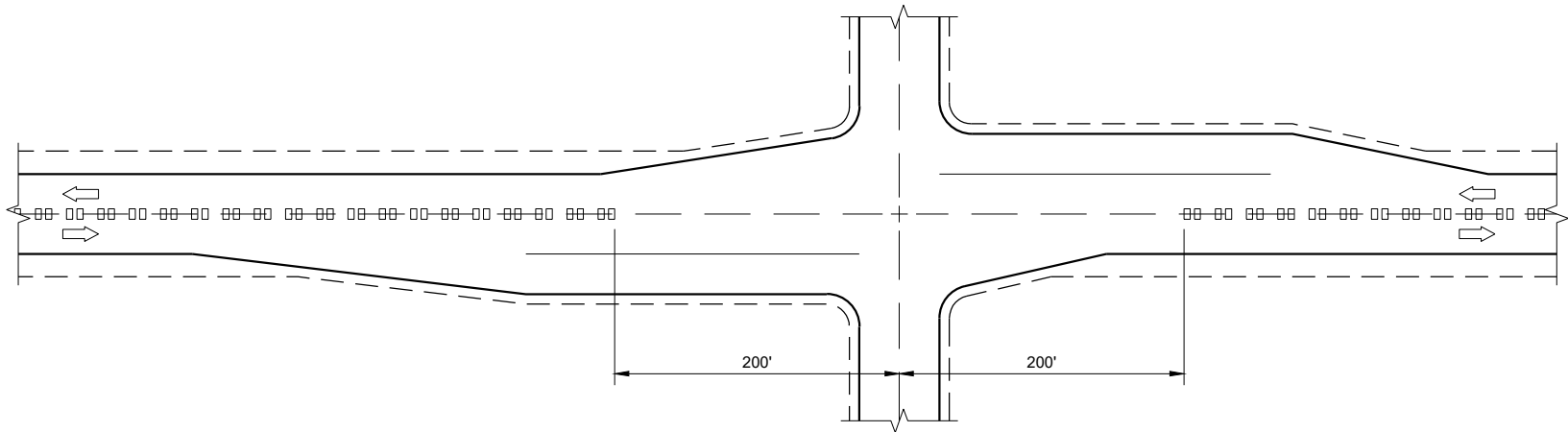
SECTION B - B
CROWNED ROADWAY



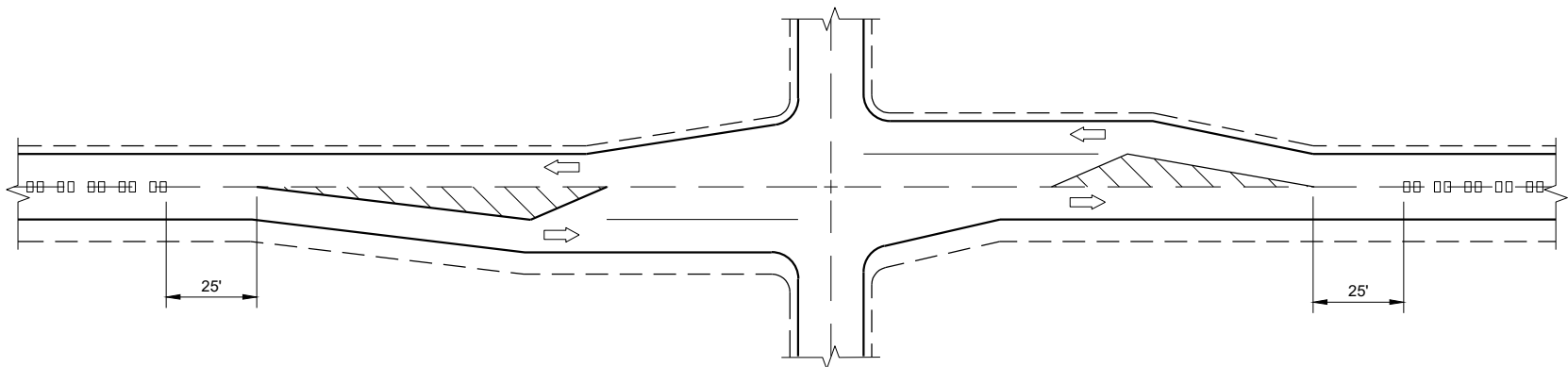
SECTION A - A

**2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING**

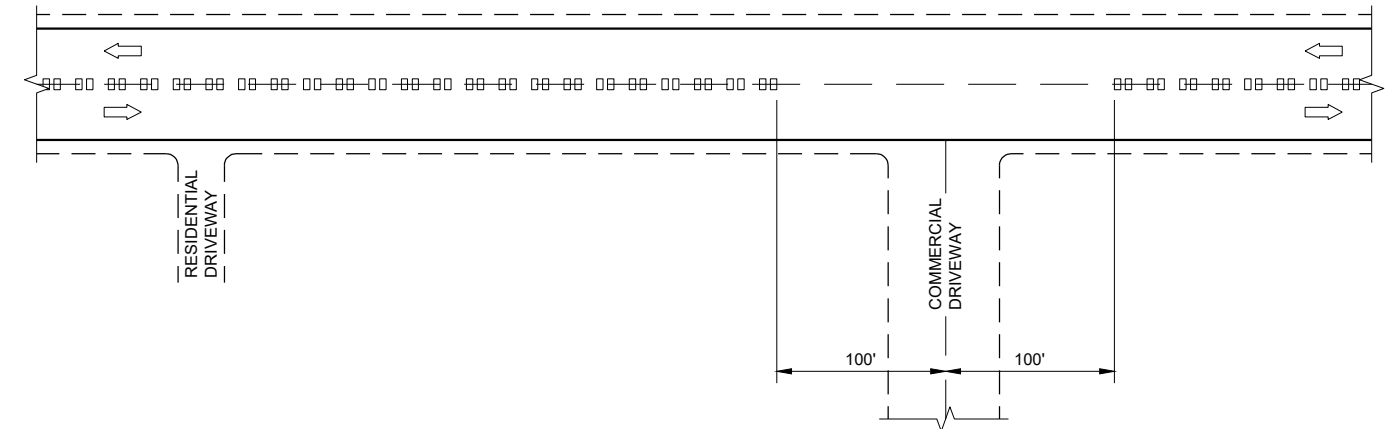
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTERLINE GROOVES AT INTERSECTIONS



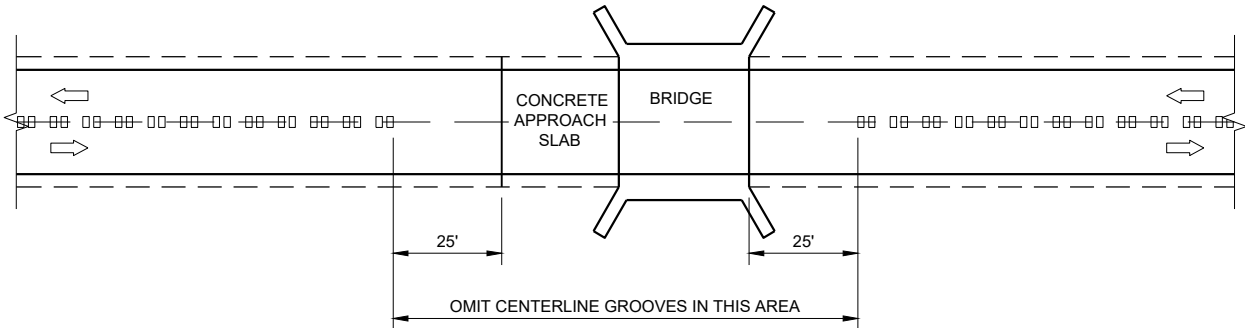
CENTERLINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)



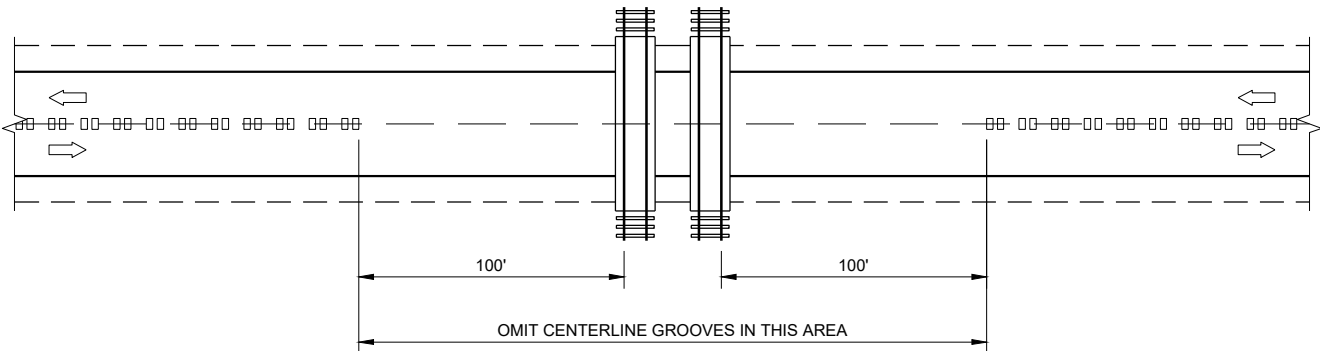
CENTERLINE GROOVES AT DRIVEWAYS^①

GENERAL NOTES

- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



CENTERLINE GROOVES AT BRIDGES



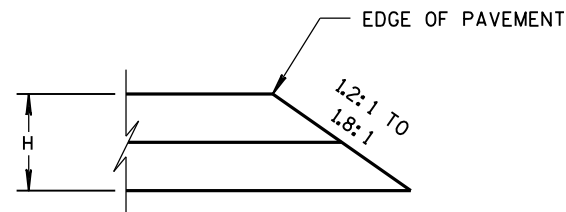
CENTERLINE GROOVES AT RAILROADS

2-LANE RURAL
CENTERLINE RUMBLE STRIP,
MILLING

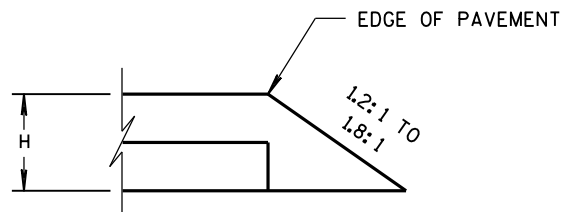
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

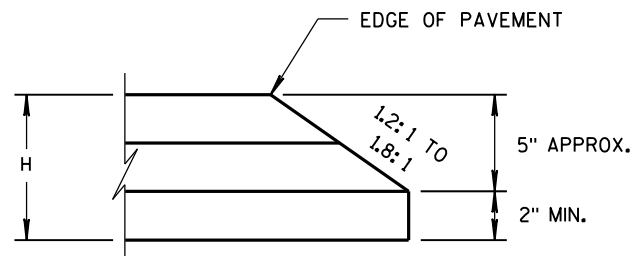
FHWA



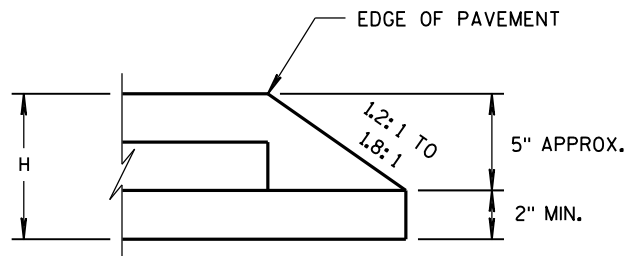
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

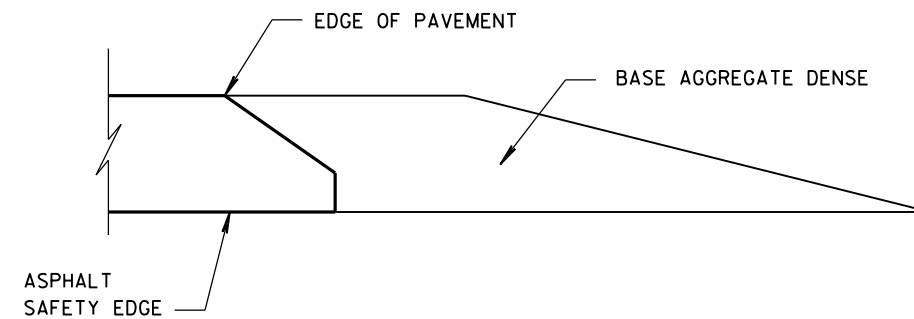


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

SAFETY EDGE_{SM}

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/2012
DATE
FHWA

/s/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.




ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

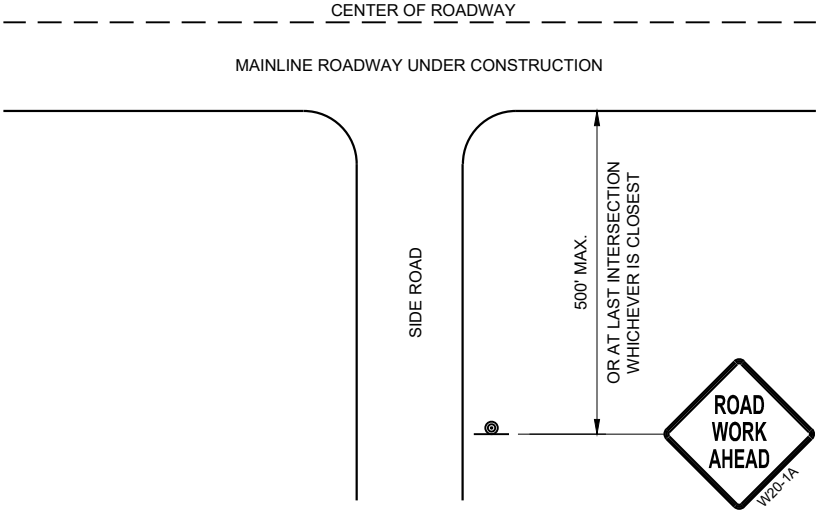
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

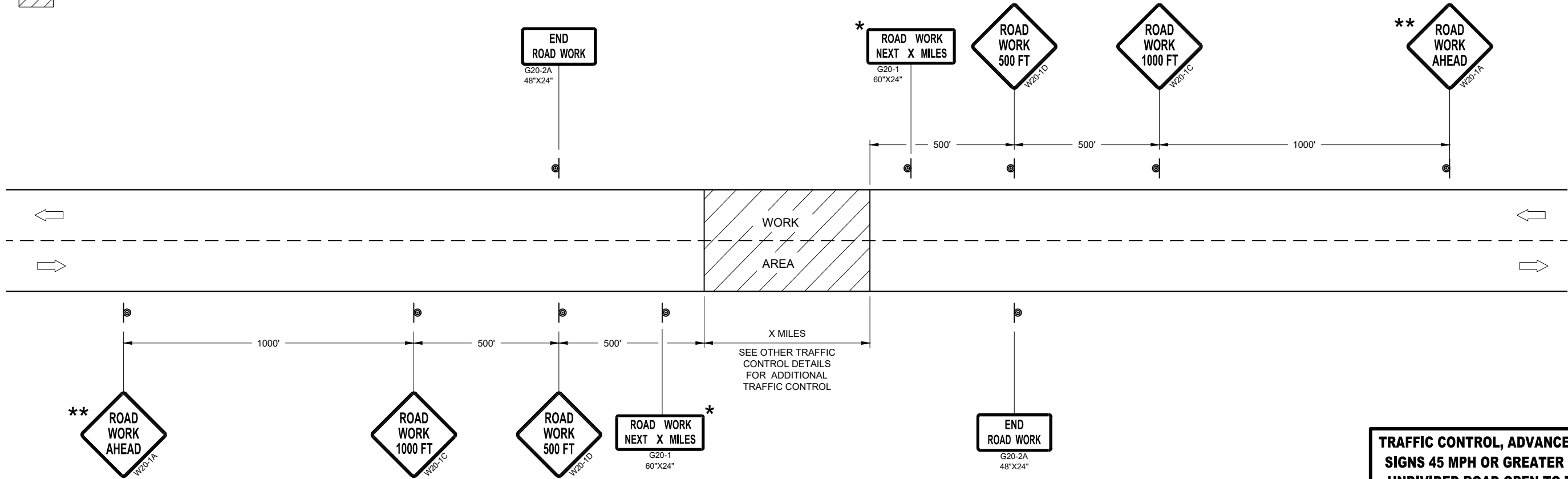
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA



TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL

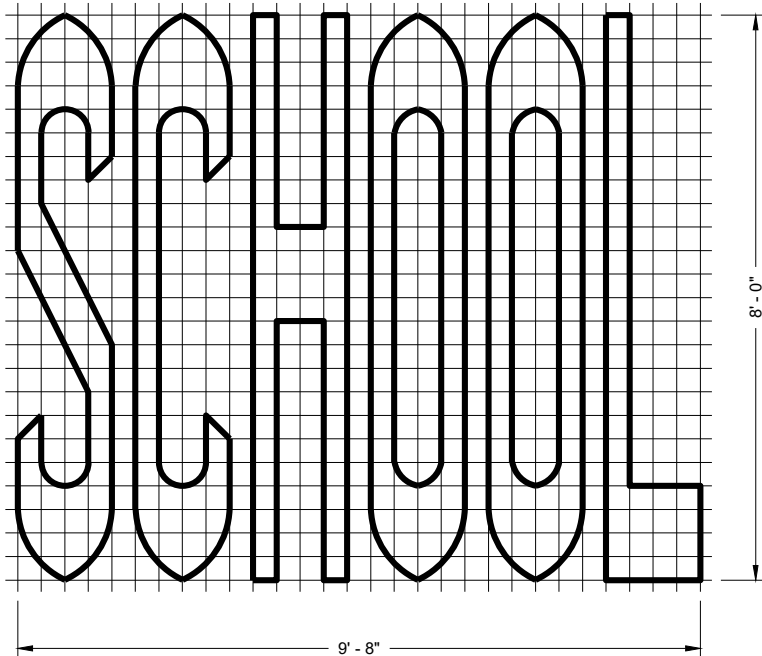
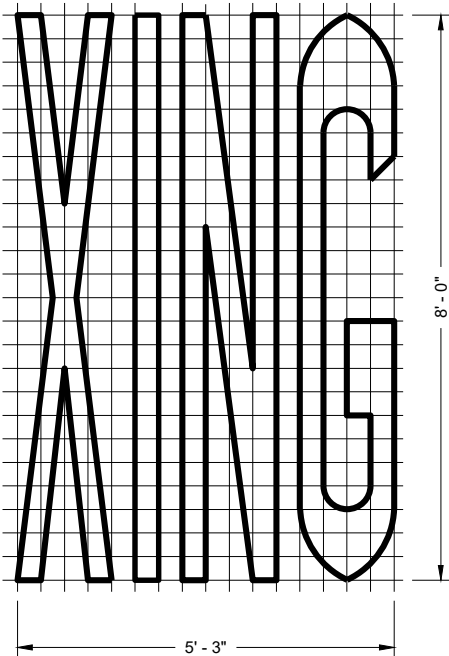
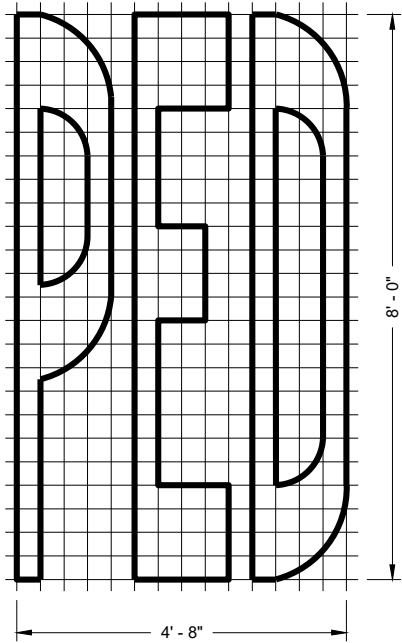
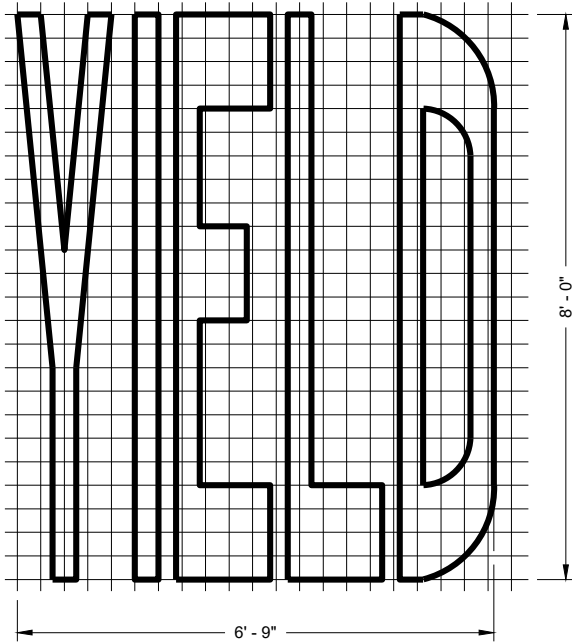
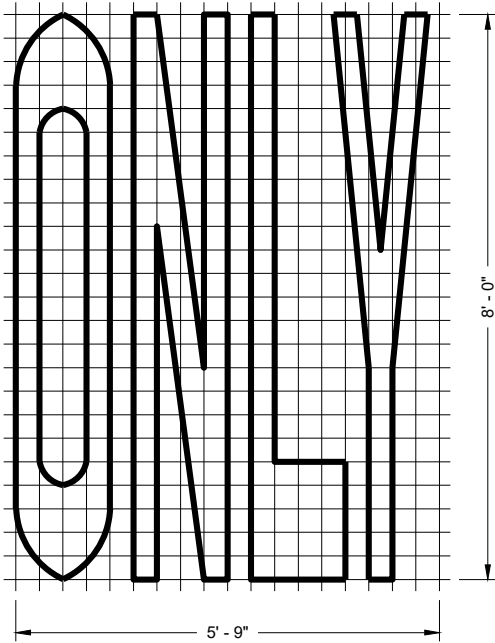
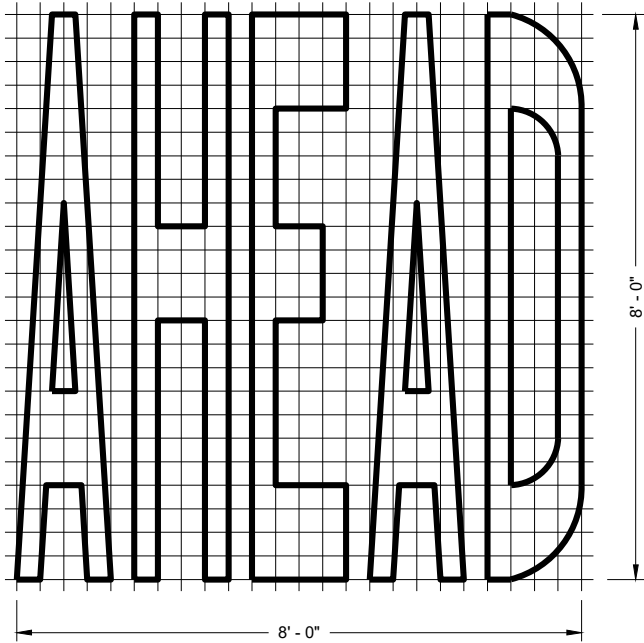
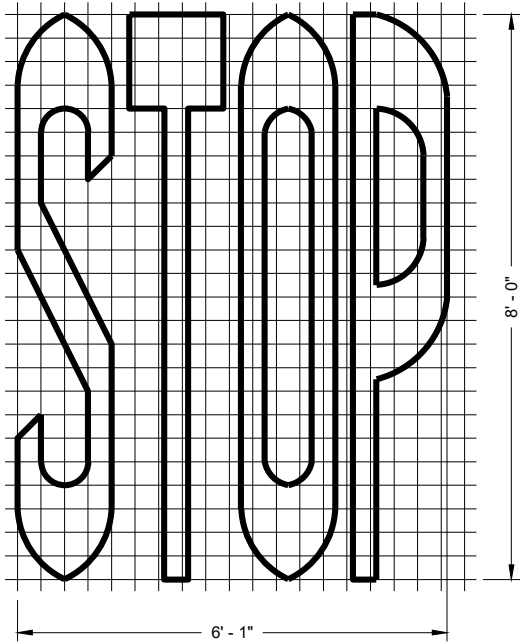


TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

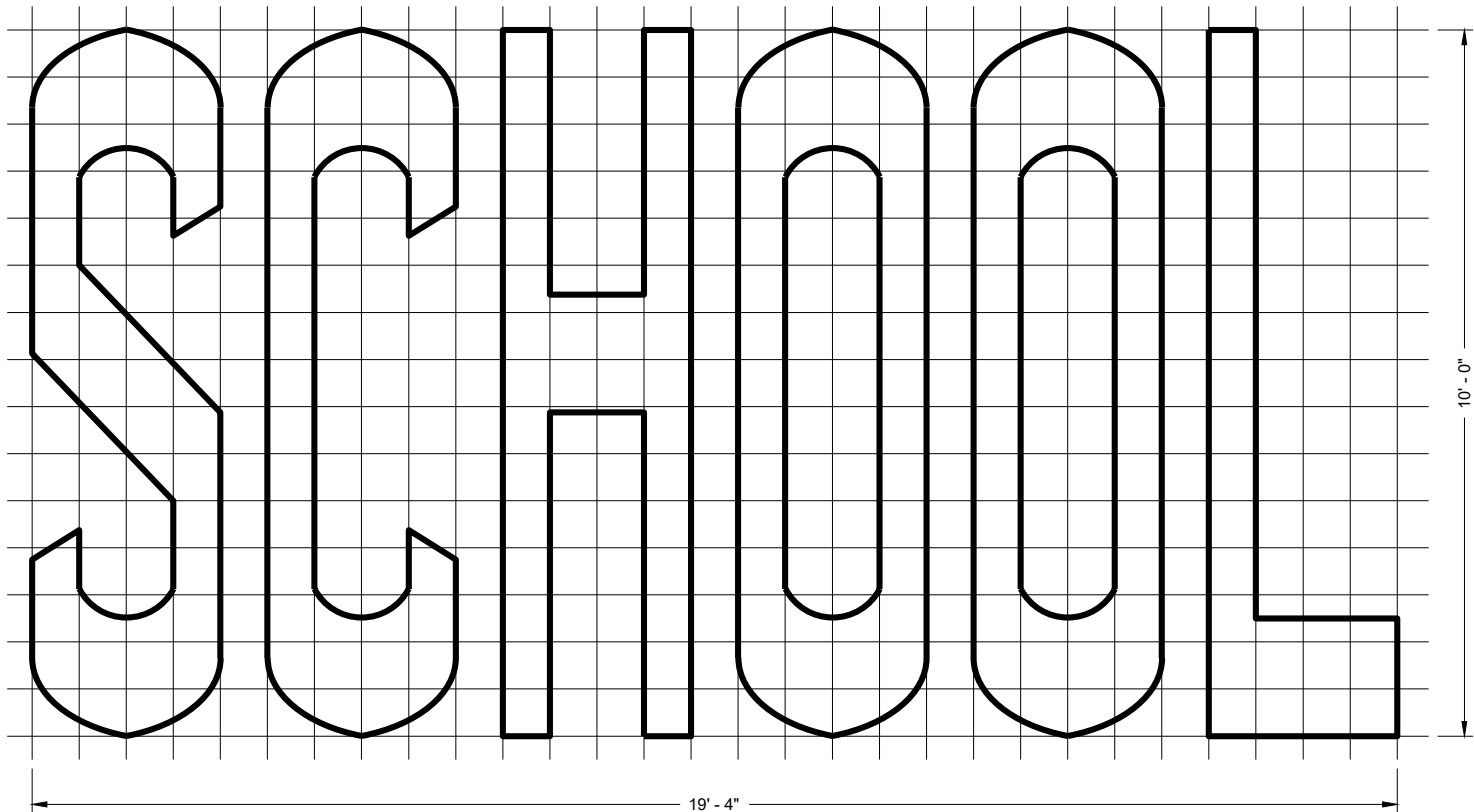
TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 45 MPH OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFICE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



SINGLE LANE



TWO - LANE

GENERAL NOTES

DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

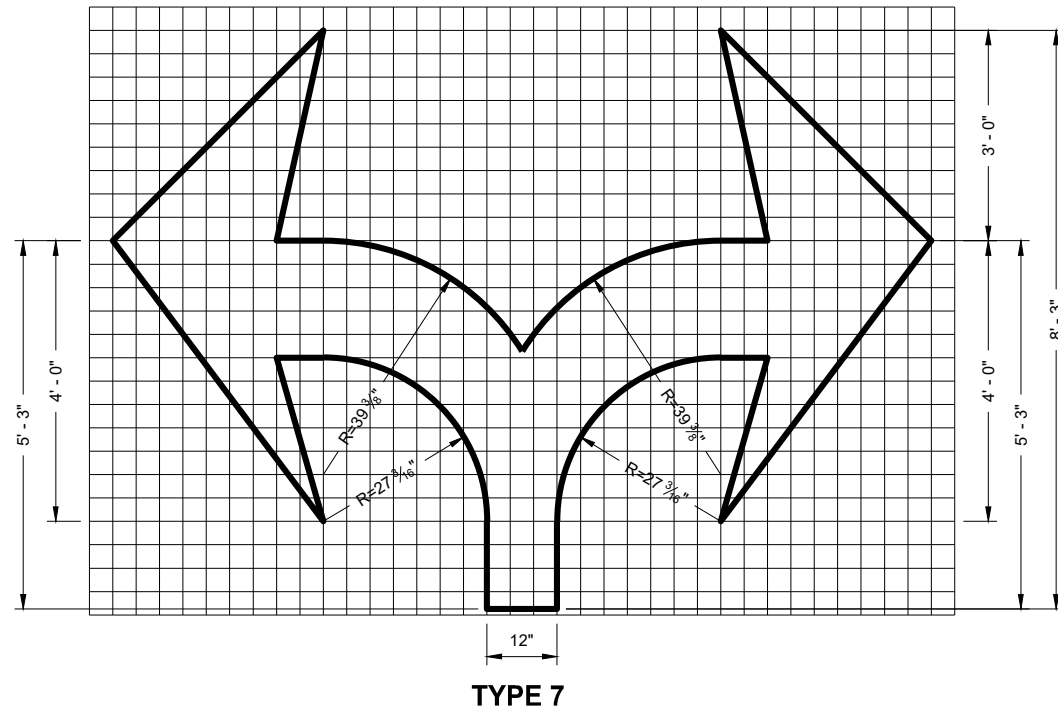
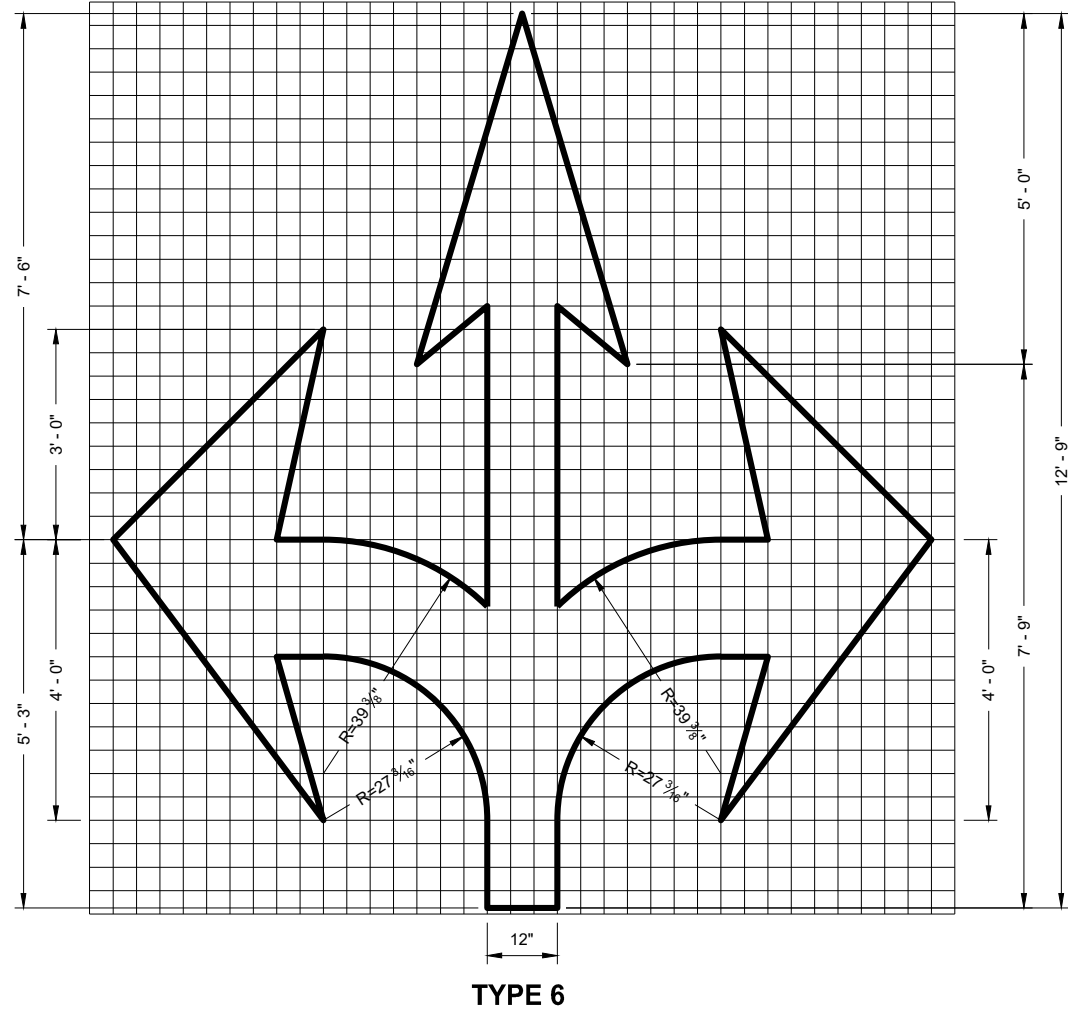
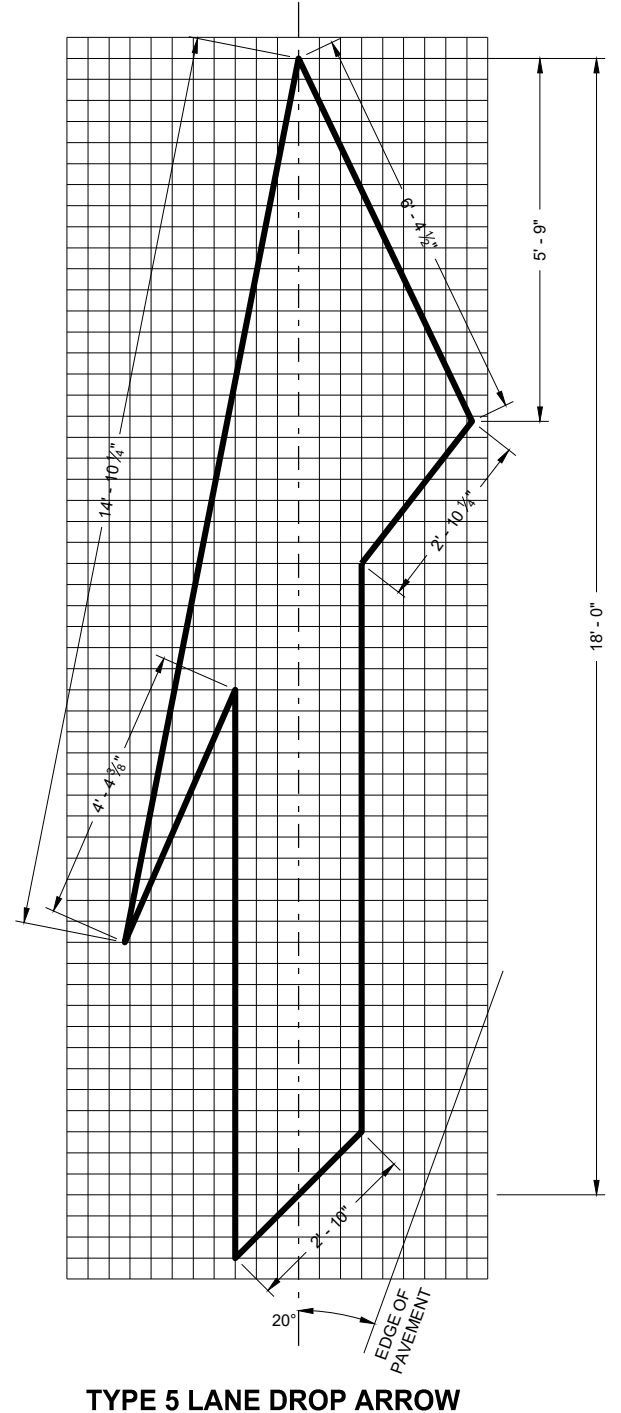
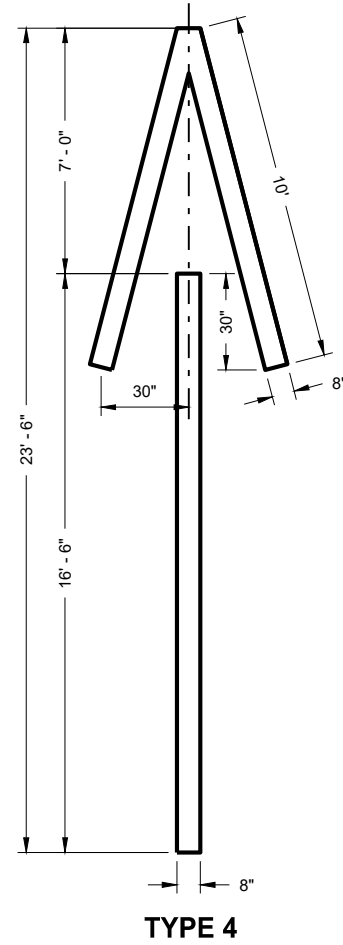
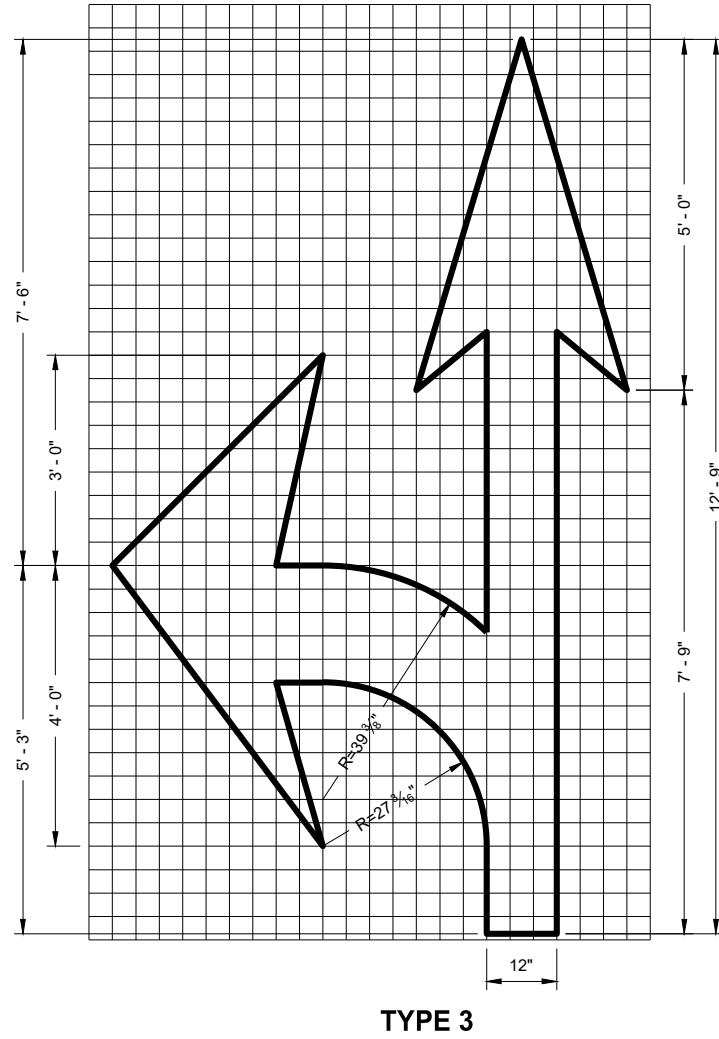
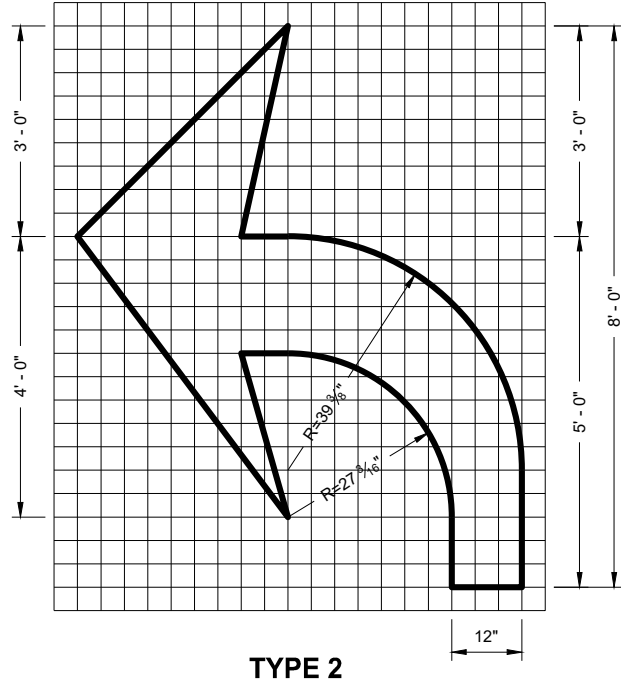
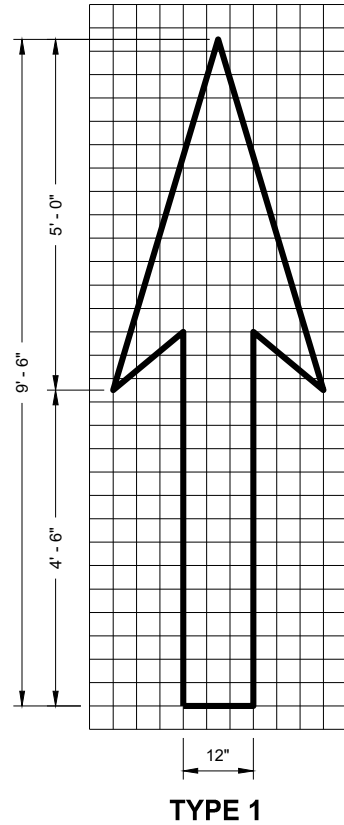
PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Matthew Rauch
STATE SIGNING AND MARKING
ENGINEER

FHWA



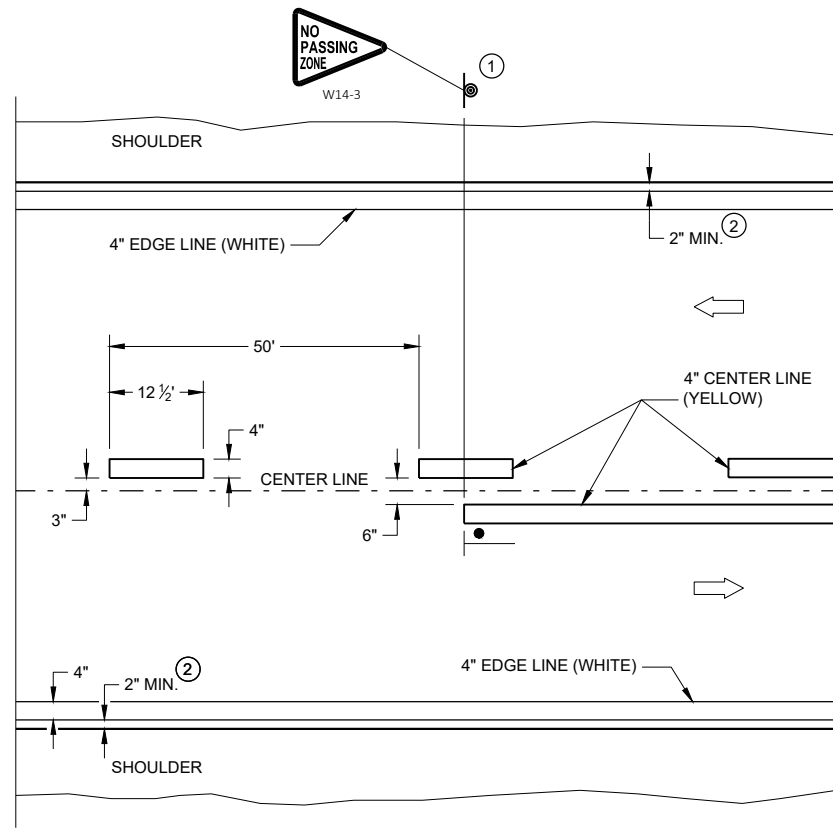
GENERAL NOTES

DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

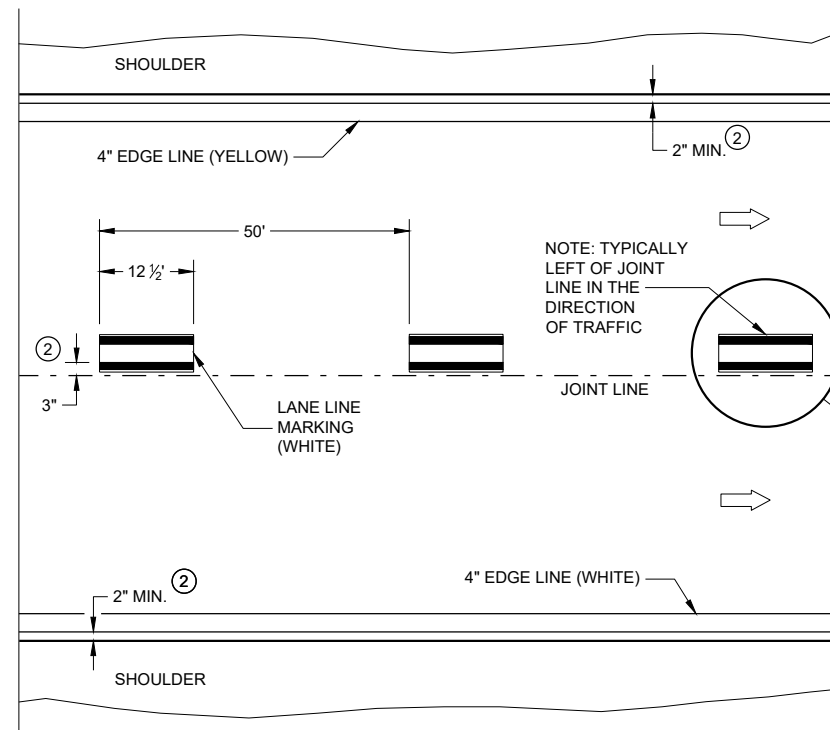
PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE /S/ Matthew Rauch
STATE SIGNING AND MARKING
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FHWA

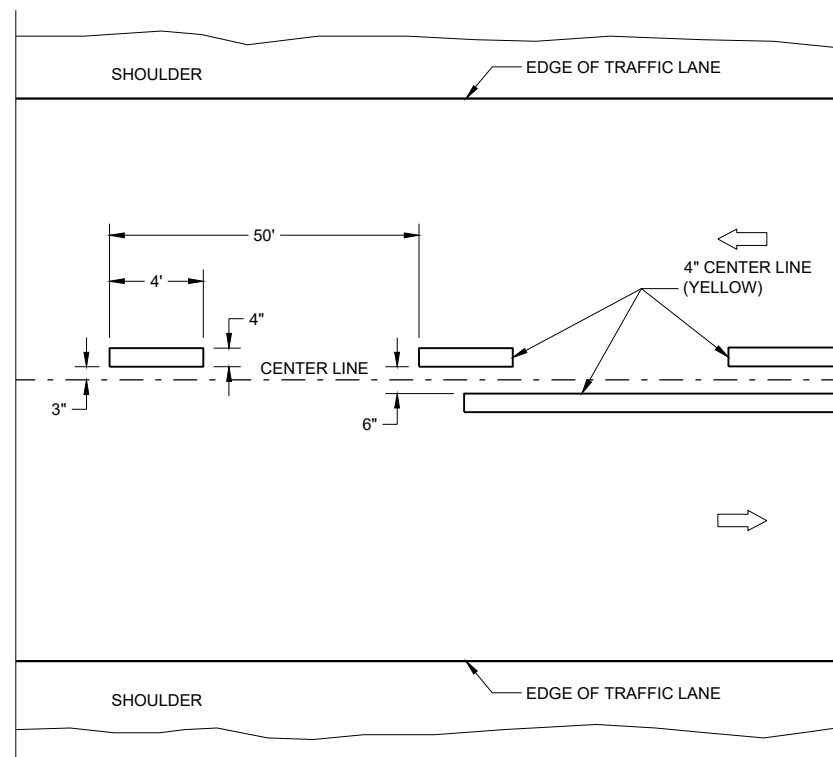


TWO WAY TRAFFIC

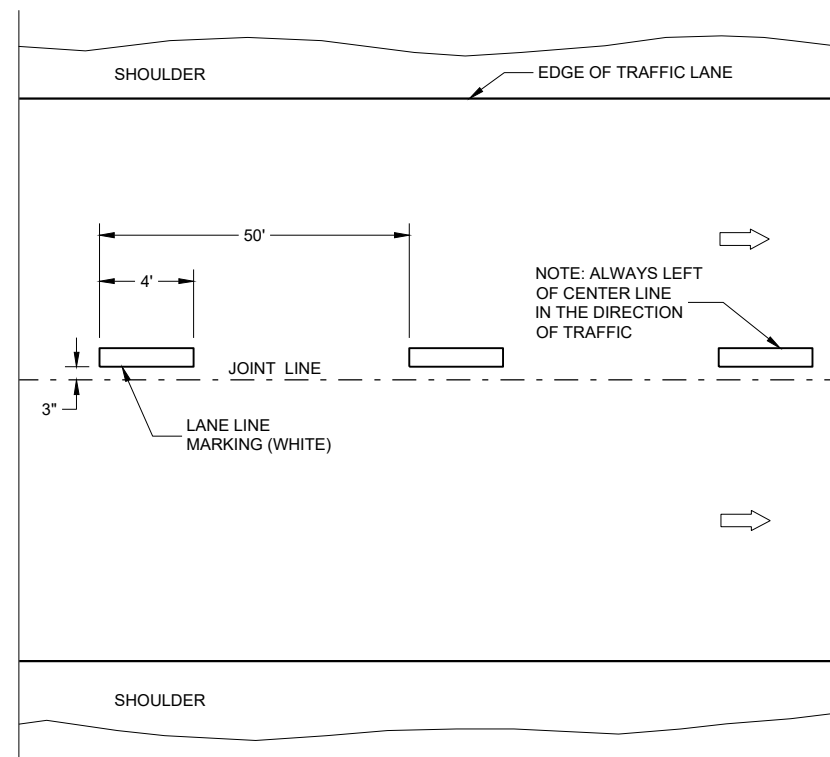


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC




TEMPORARY PAVEMENT MARKING

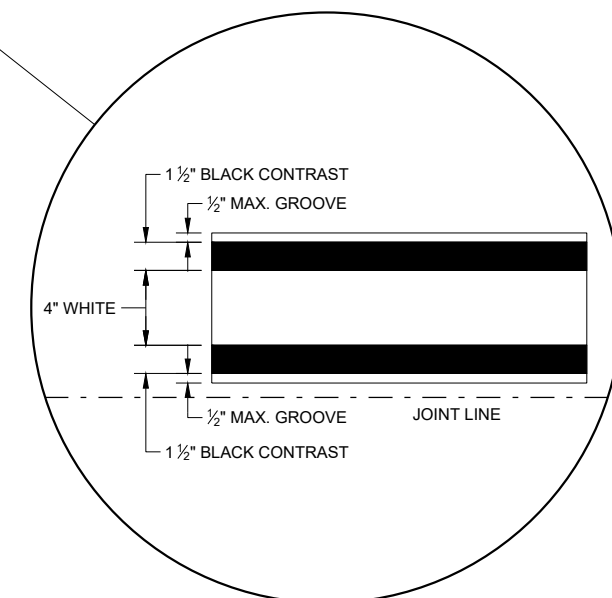
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM
TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITH 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

-  "T" MARKING
 SIGN ON PERMANENT SUPPORT
 DIRECTION OF TRAFFIC

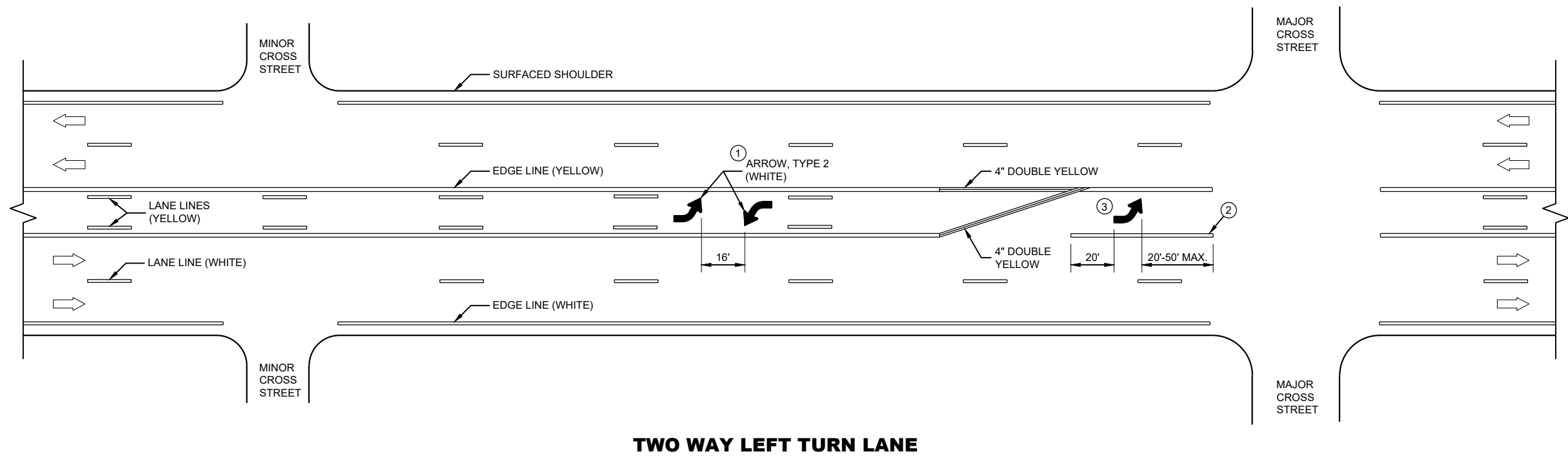


LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Matthew Rauch
STATEWIDE SIGNING AND MARKING
ENGINEER



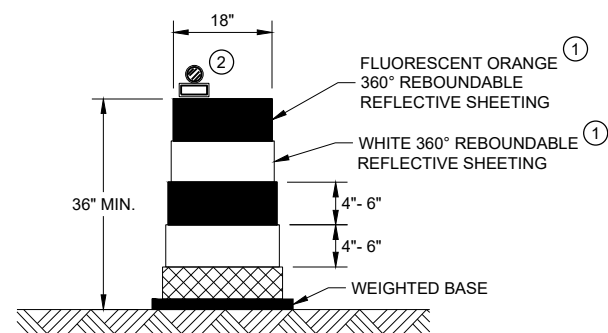
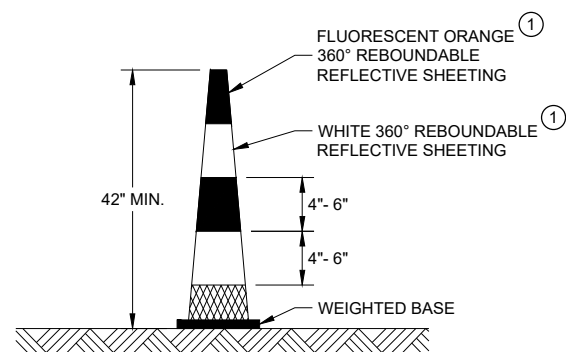
GENERAL NOTES

- ① A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ② 8" WHITE
- ③ TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

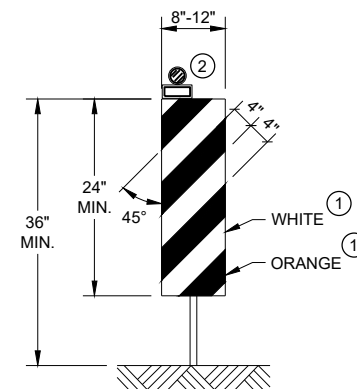
➡ DIRECTION OF TRAFFIC

**PAVEMENT MARKING
(TURN LANES)**

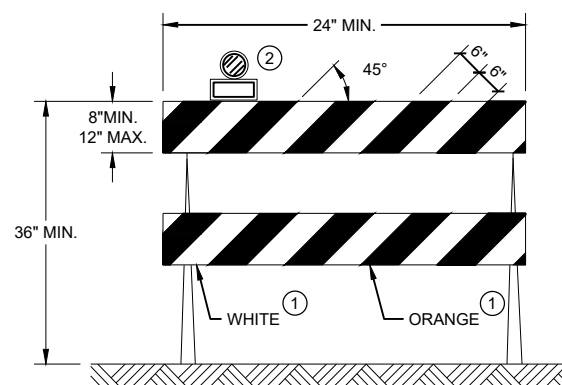
STATE OF WISCONSIN
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**DRUM****42" CONE**

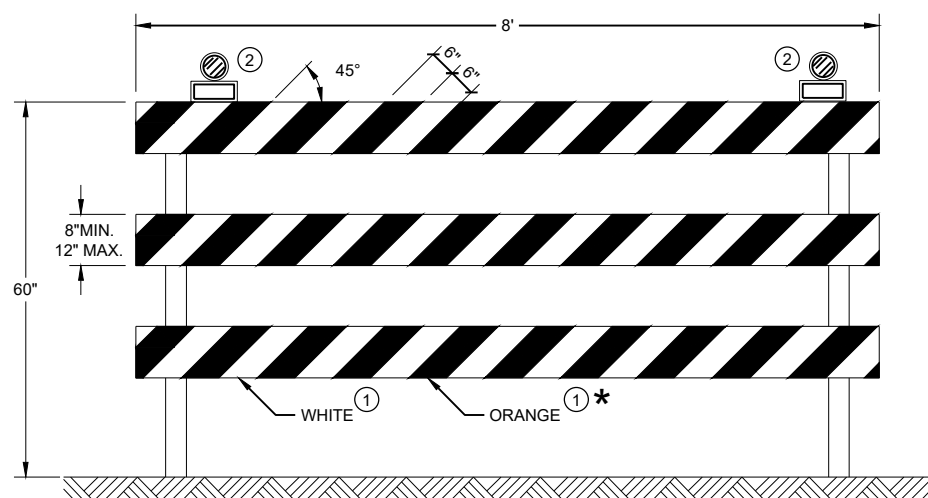
DO NOT USE IN TAPERS
 $\frac{1}{2}$ SPACING OF DRUMS

**VERTICAL PANEL**

THE STRIPES SHALL SLOPE DOWNWARD TO
 THE TRAFFIC SIDE FOR CHANNELIZATION.

**TYPE II BARRICADE**

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
 MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
 TO THE TRAFFIC SIDE FOR CHANNELIZATION.

**TYPE III BARRICADE**

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
 TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

GENERAL NOTES






- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

**CHANNELIZING DEVICES
 DRUMS, CONES, BARRICADES
 AND VERTICAL PANELS**

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

APPROVED
 June 2017 /S/ Andrew Heidtke
 DATE WORK ZONE ENGINEER
 FHWA

LEGEND

-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  TEMPORARY PORTABLE RUMBLE STRIP ARRAY
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

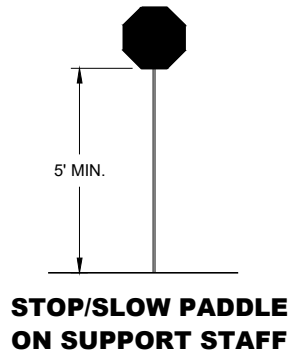
THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND LOCATION OF ALL FLAGGERS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

- FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.
- FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
 - SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.
- WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.
- TEMPORARY PORTABLE RUMBLE STRIPS**
- UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.
- EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.
- ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FOR THE APPROVED PRODUCTS LIST.
- INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.
- PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.
- DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

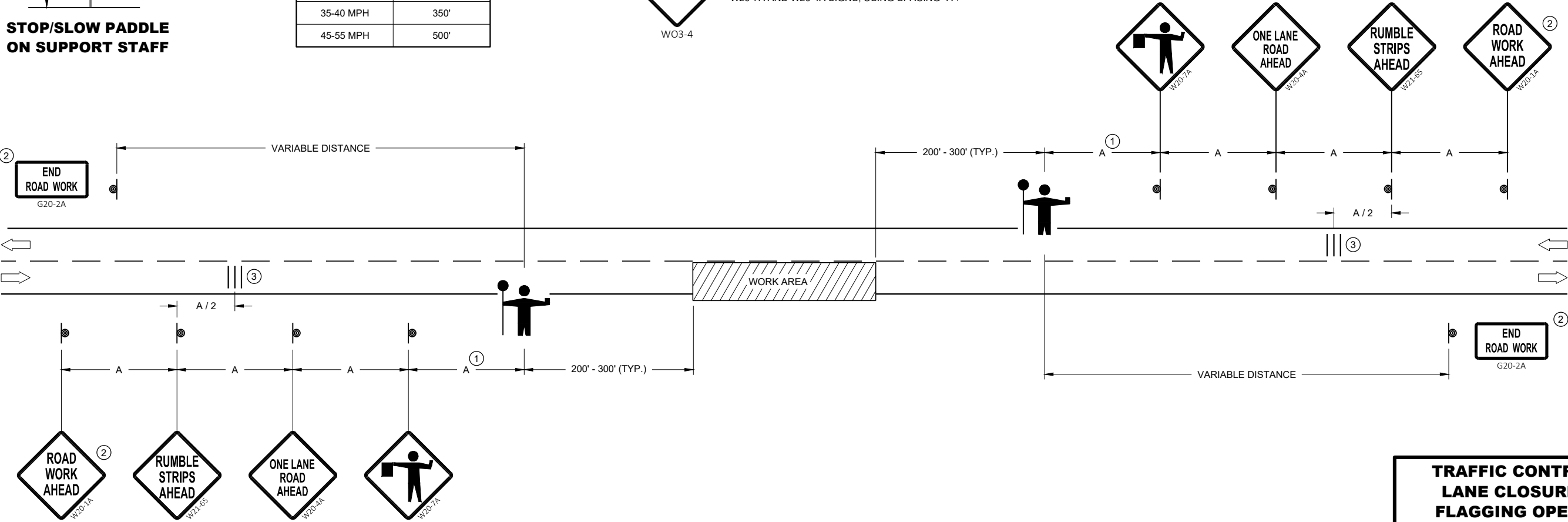


SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'







USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

LEGEND

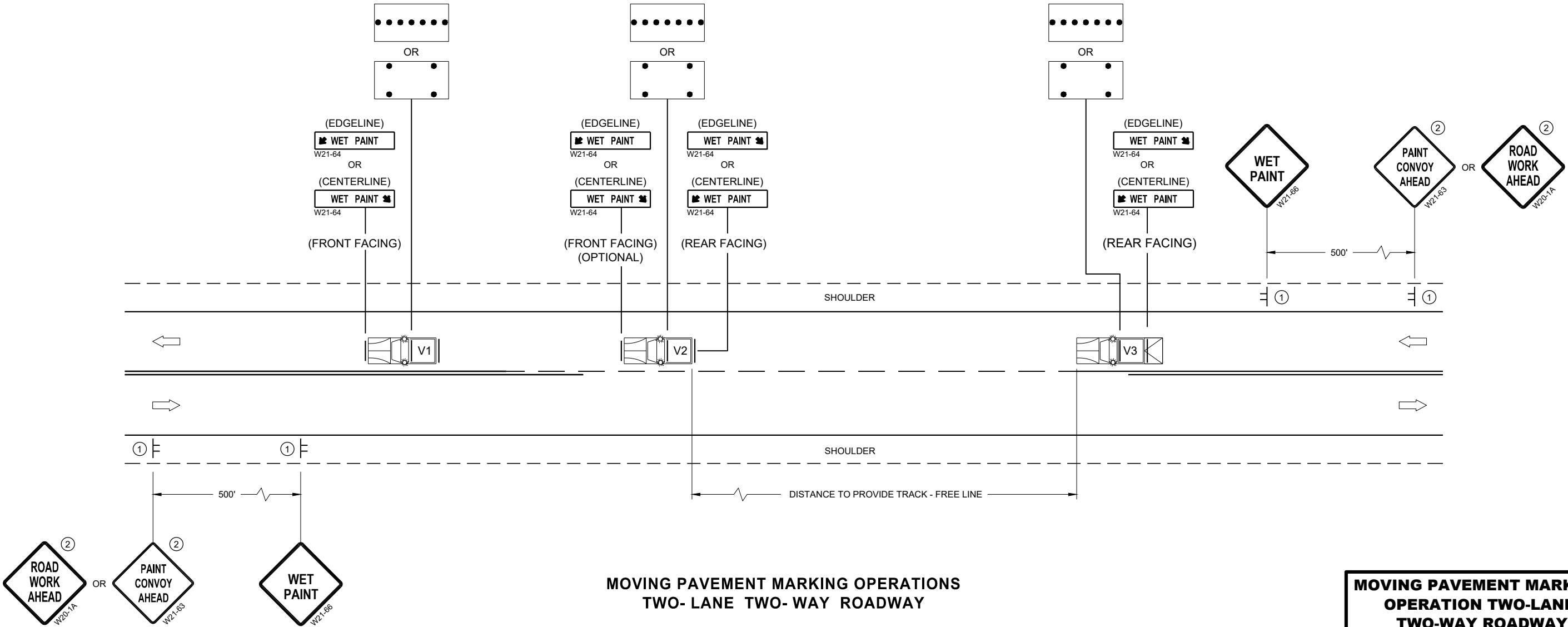
- V1 LEAD VEHICLE
- V2 MARKING VEHICLE
- V3 SHADOW VEHICLE
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC
-  FLASHING ARROW PANEL (CAUTION)

GENERAL NOTES

- ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.
- ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.
- DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
- THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

- WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.
- CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
- CONES SHALL BE A MINIMUM OF 18" FOR WET PAVEMENT MARKING .

- ① SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
- ② IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.








MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

MOVING PAVEMENT MARKING
OPERATION TWO-LANE
TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA

LEGEND

- V1 LEAD VEHICLE
- V2 MARKING VEHICLE
- V3 SHADOW VEHICLE
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC
-  FLASHING ARROW PANEL (MERGE)
-  FLASHING ARROW PANEL (CAUTION)

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

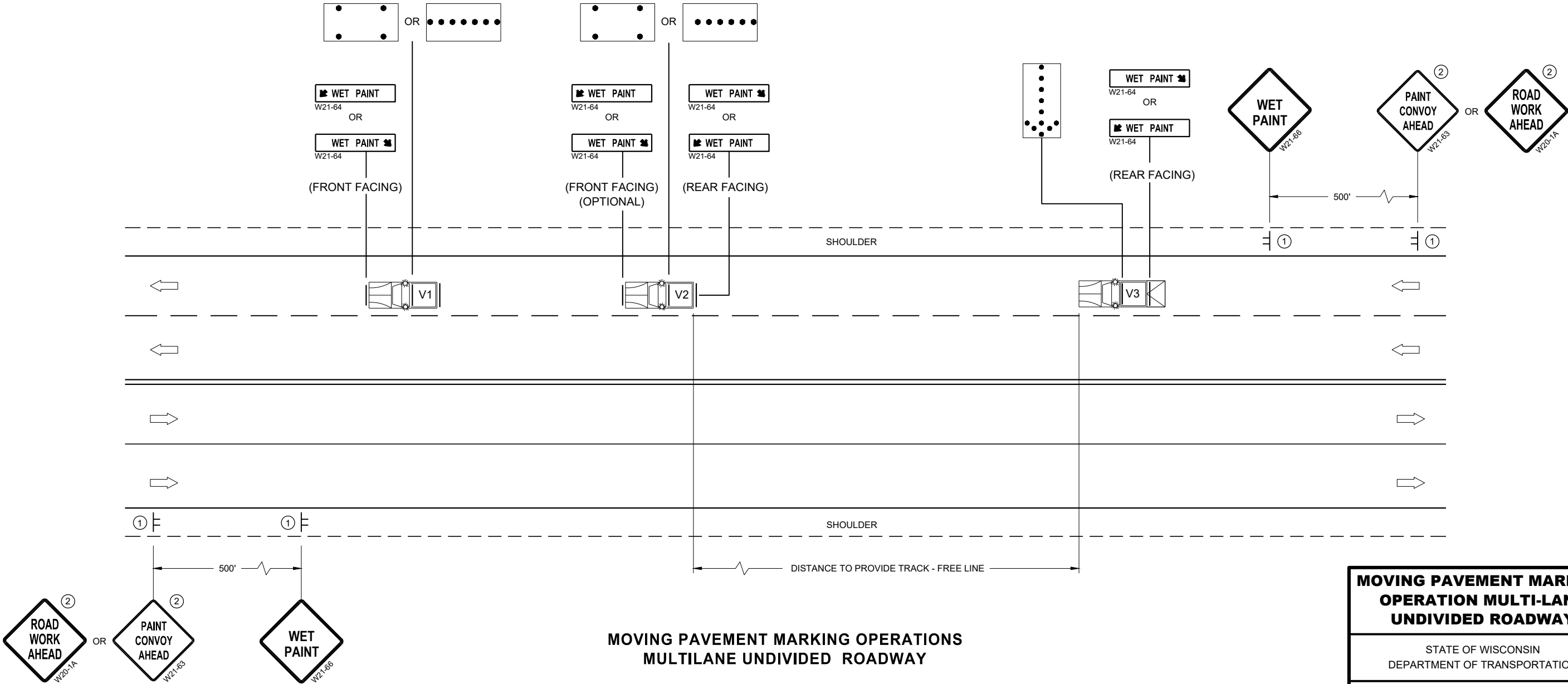
WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLES AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL HAVE A MINIMUM HEIGHT OF 18" FOR WET PAVEMENT MARKINGS.

- ① SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
- ② IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.

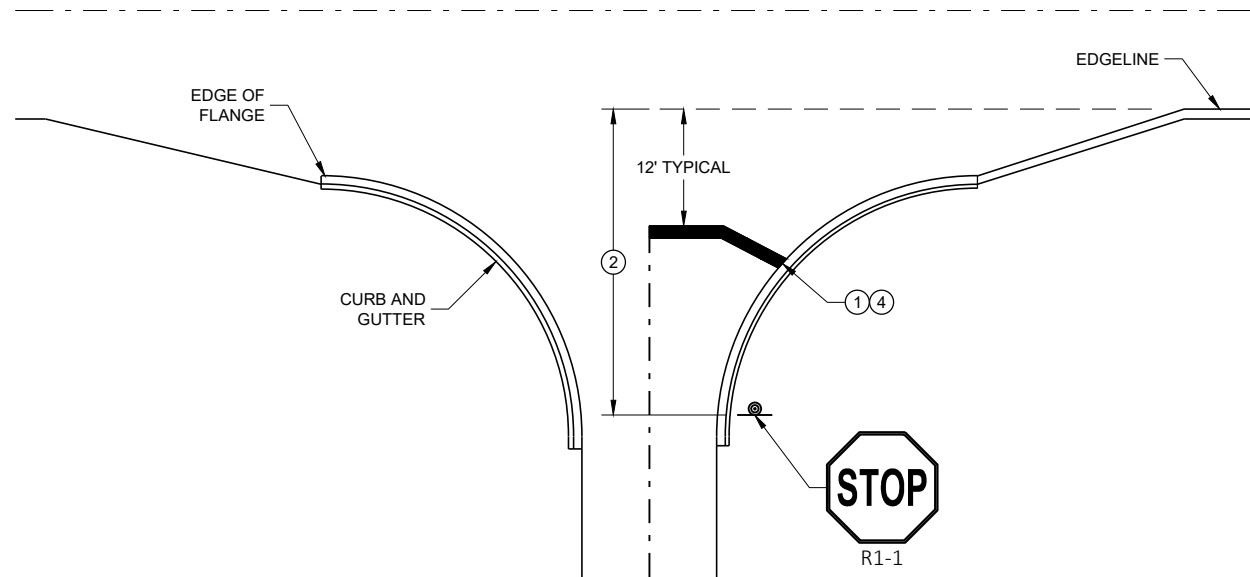


MOVING PAVEMENT MARKING OPERATIONS
MULTILANE UNDIVIDED ROADWAY

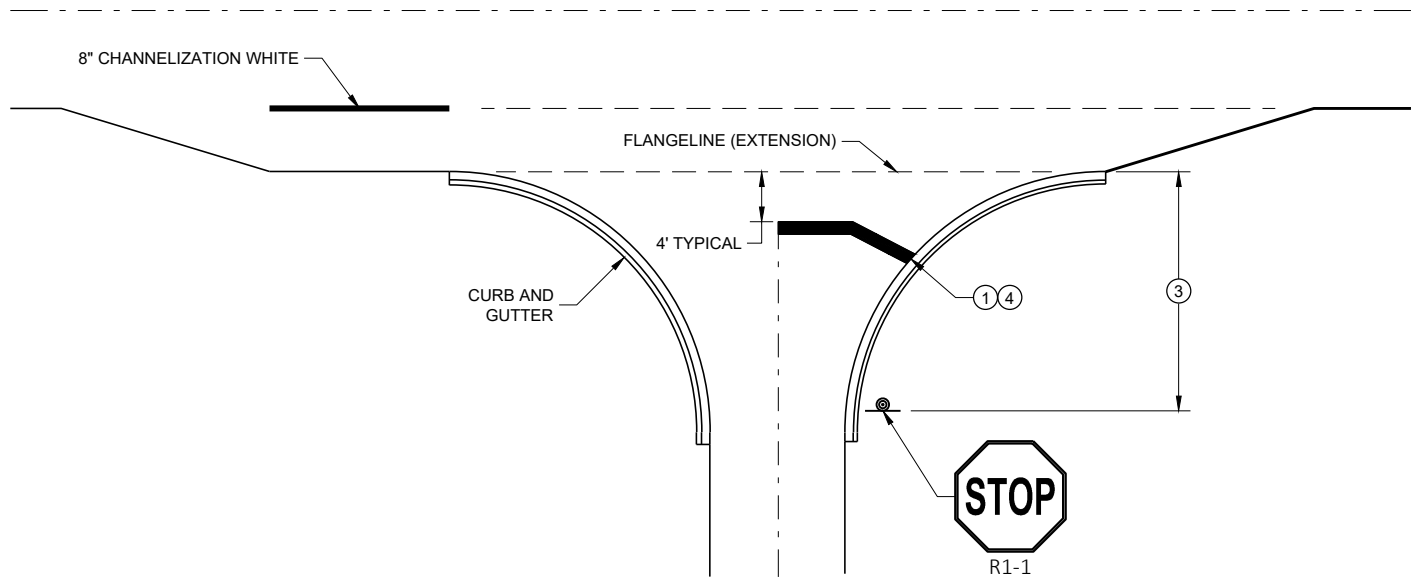
MOVING PAVEMENT MARKING
OPERATION MULTI-LANE
UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

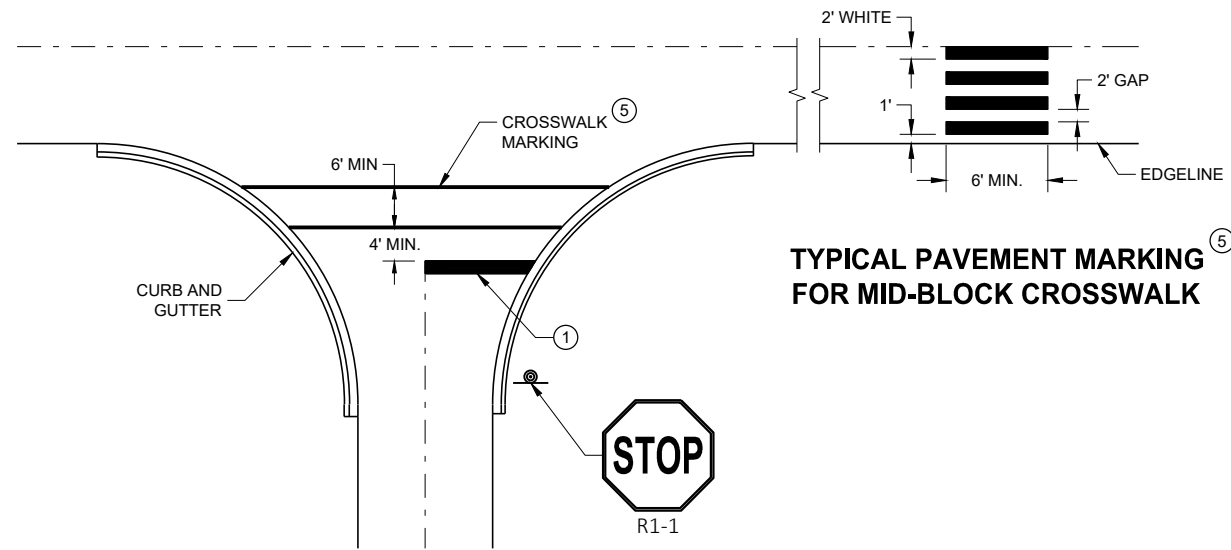
APPROVED
November 2019 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



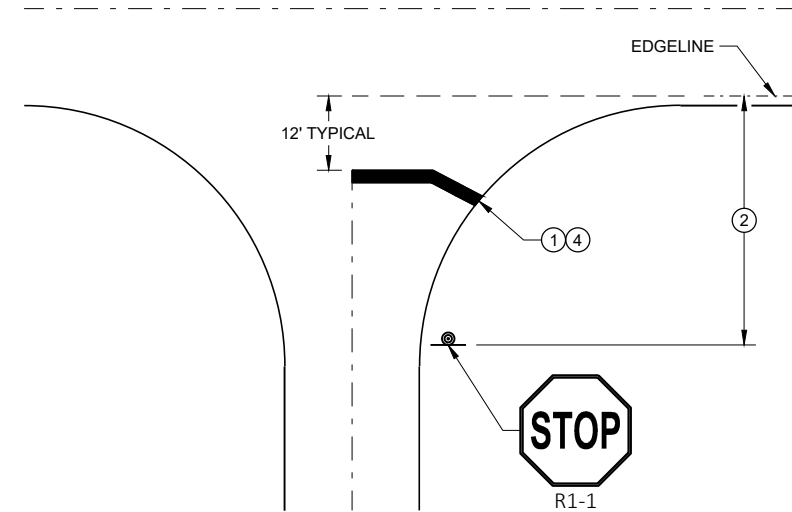
TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR
SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING
WITHOUT CURB AND GUTTER

GENERAL NOTES

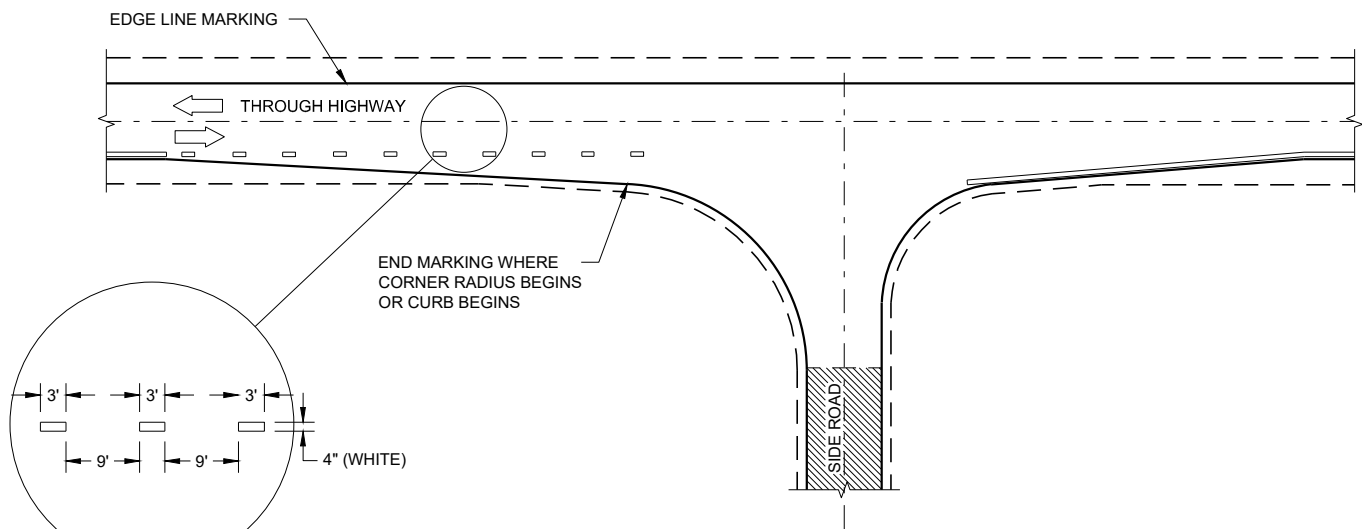
STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGE LINE LOCATION.

- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGE LINE.
- ③ NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION.
- ④ MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
- ⑤ LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES INSTEAD.

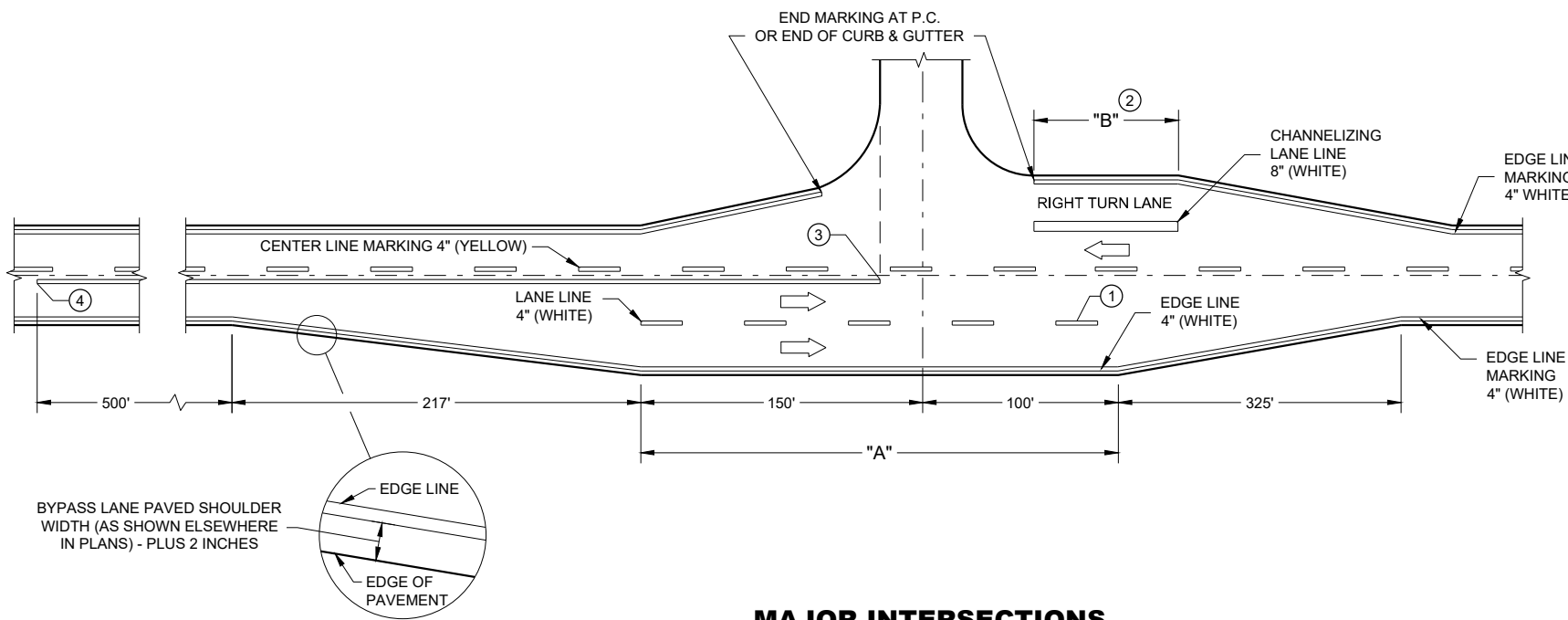
STOP LINE AND CROSSWALK
PAVEMENT MARKING

STATE OF WISCONSIN
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DATE STATE SIGNING AND MARKING
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MINOR INTERSECTION



MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

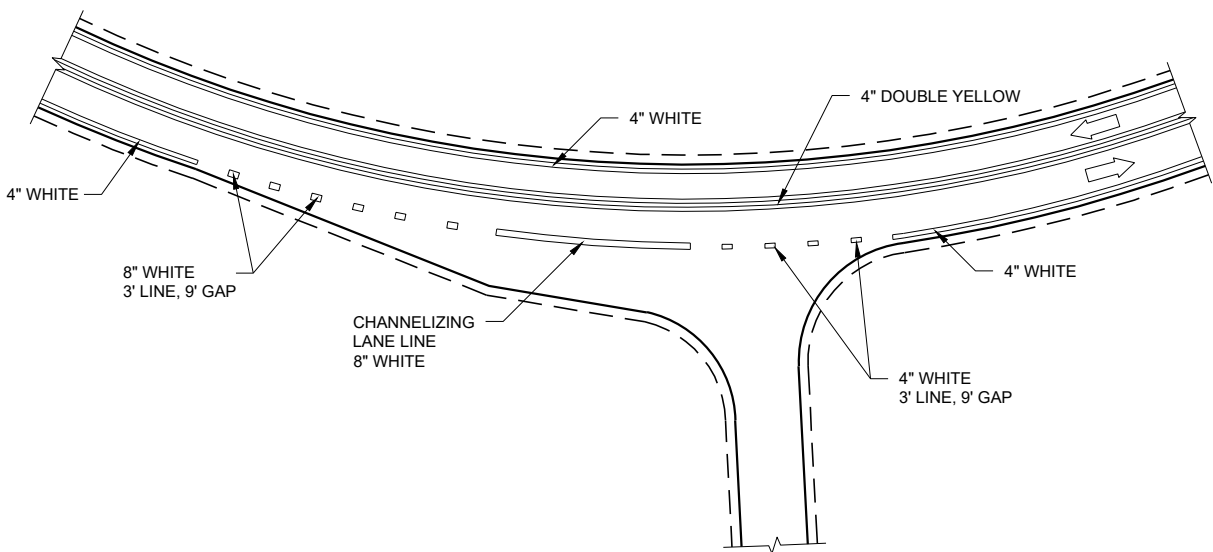
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

LEGEND

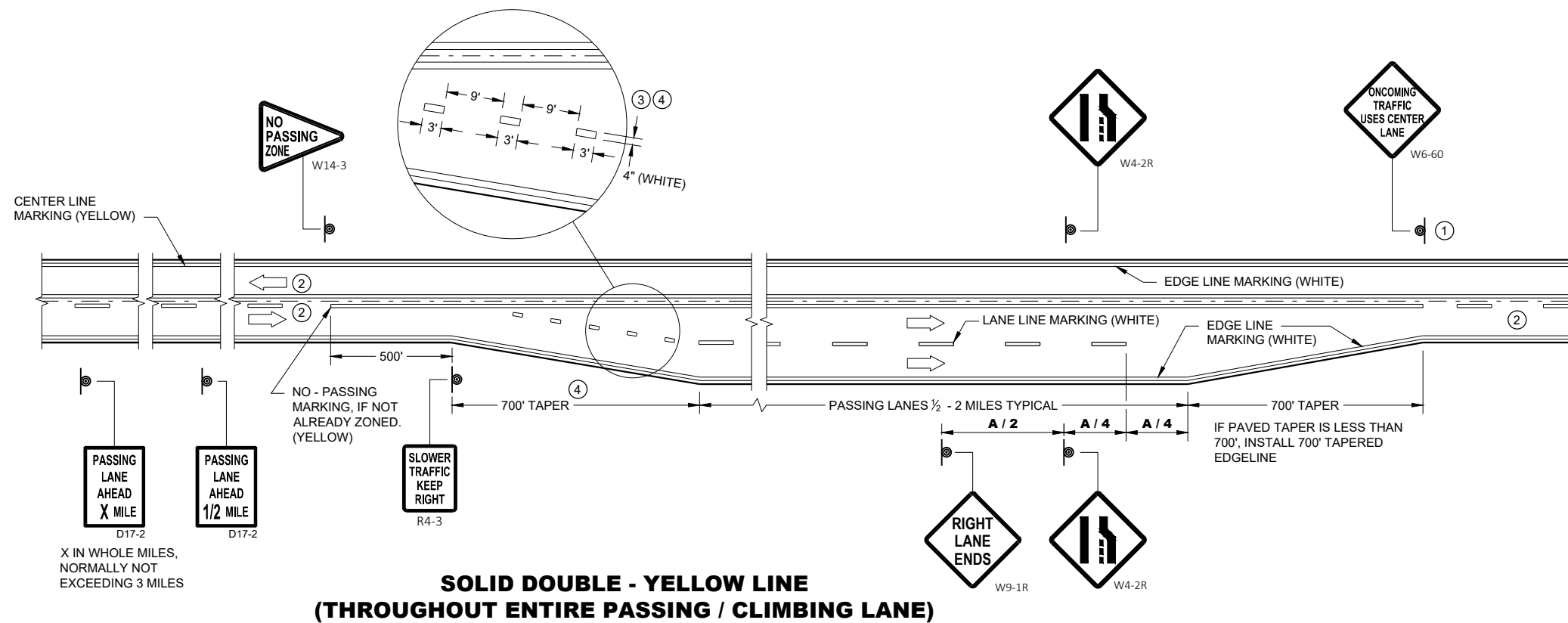
➡ DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

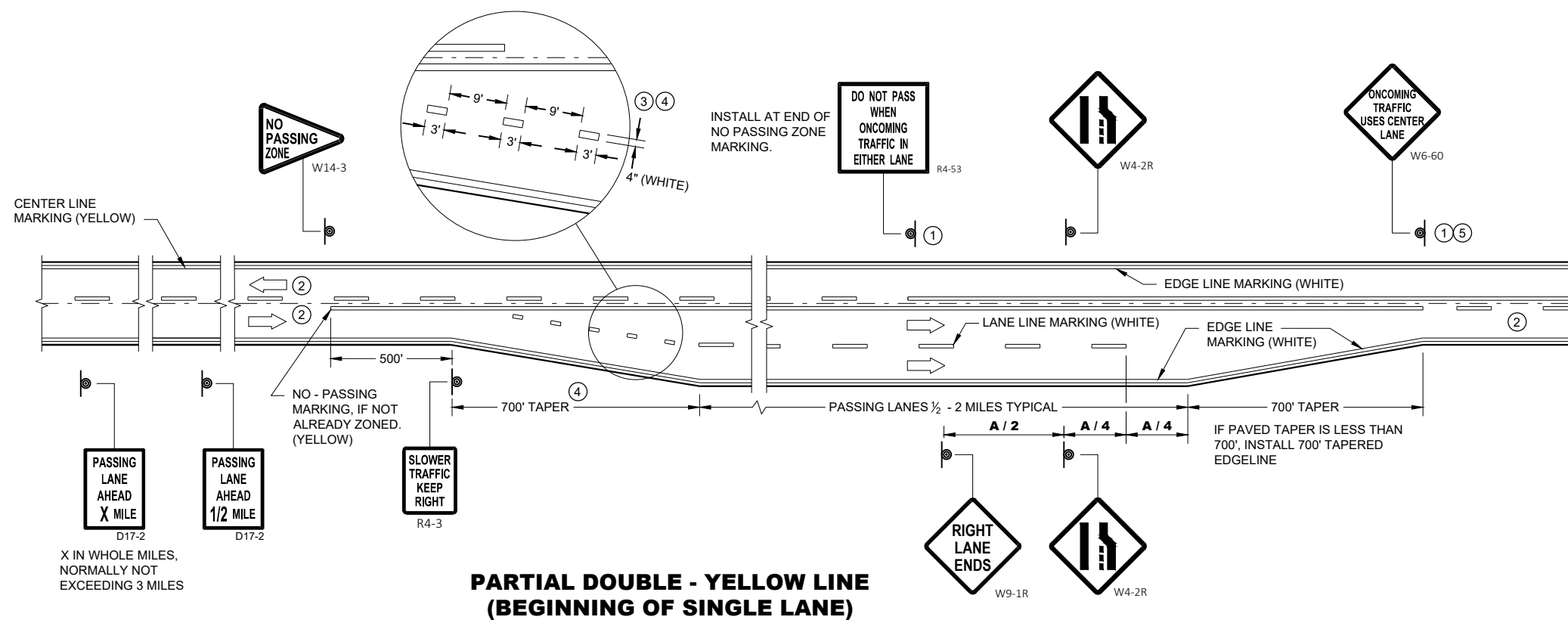


GENERAL NOTES

- ① SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
- ② THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
- ③ THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE, 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ④ WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING / CLIMBING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.
- ⑤ REPEAT EVERY 1 MILE UP UNTIL R4-53.

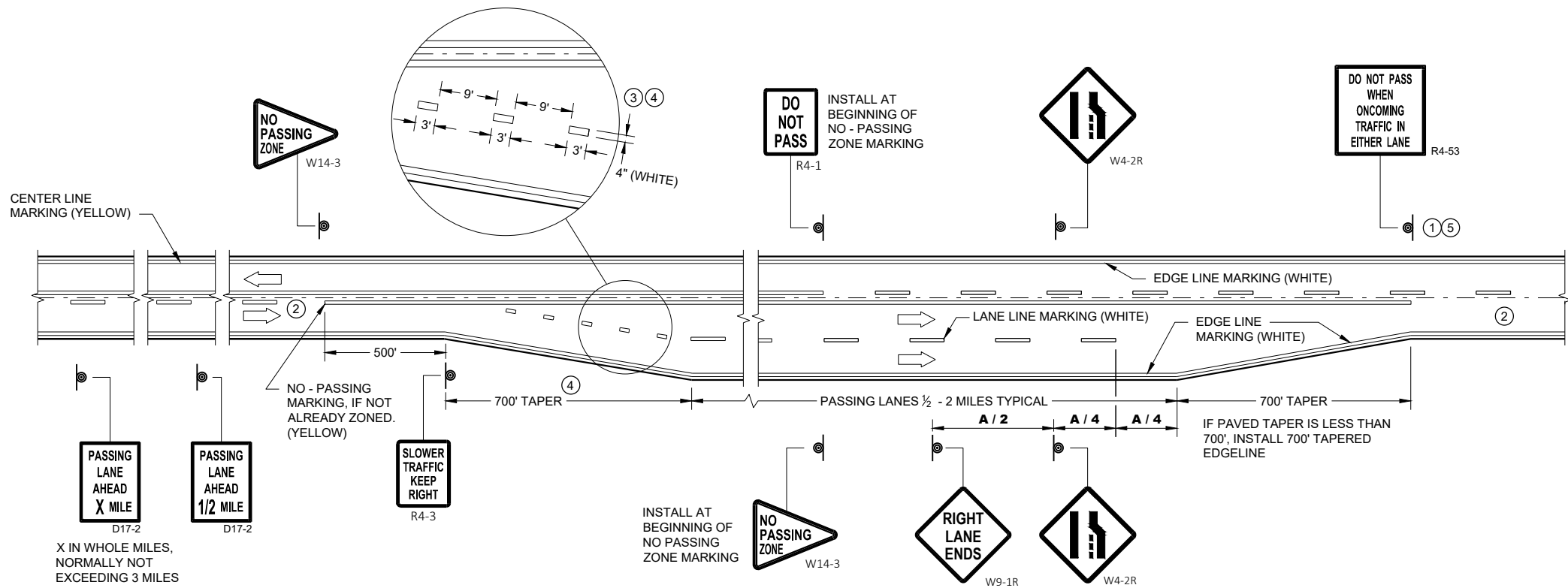
ARROW SYMBOL () SHOWS DIRECTION OF TRAVEL

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	885
55	990

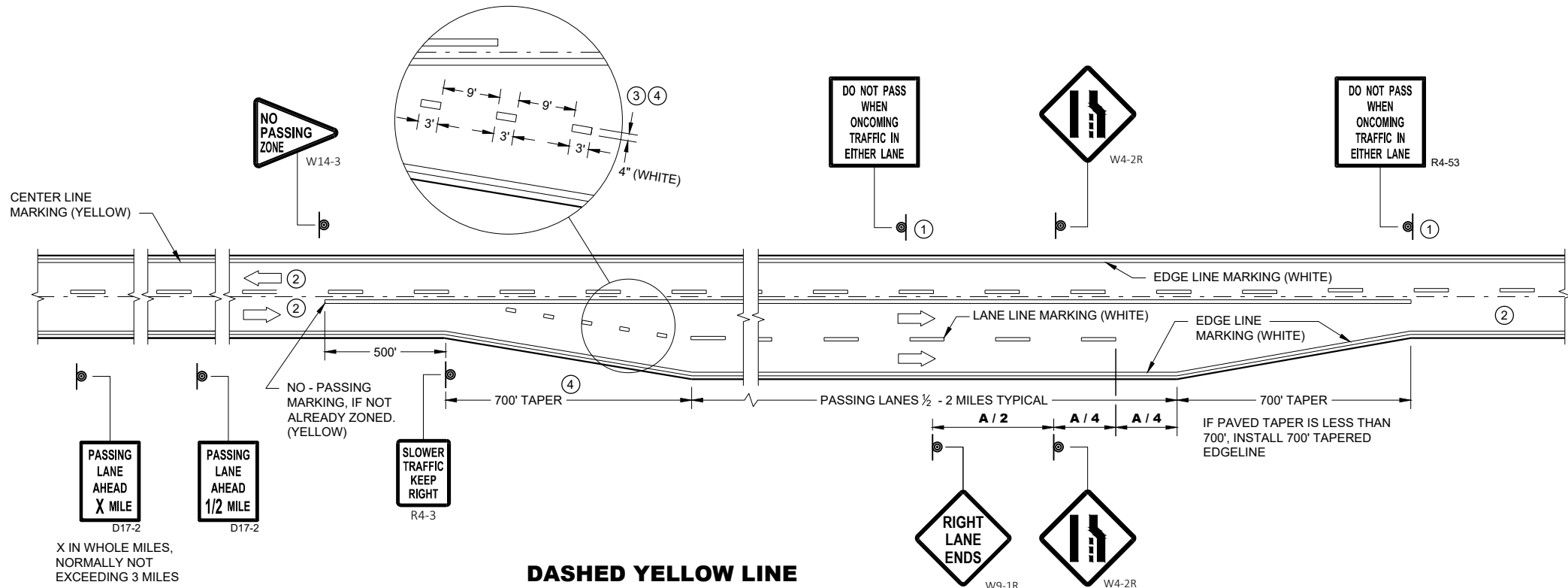


PAVEMENT MARKING & SIGNING (CLIMBING LANE & PASSING LANE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION




**SOLID DOUBLE - YELLOW LINE
(END OF SINGLE LANE)**



**DASHED YELLOW LINE
(THROUGHOUT SINGLE LANE)**

GENERAL NOTES

- ① SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
- ② THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
- ③ THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE, 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ④ WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING / CLIMBING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.
- ⑤ REPEAT EVERY ONE MILE UP UNTIL NO PASSING ZONE.

ARROW SYMBOL () SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE





POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	885
55	990

**PAVEMNET MARKING & SIGNING
(CLIMBING LANE & PASSING LANE)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING
ENGINEER
FHWA

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  DIRECTION OF TRAFFIC
-  WORK ZONE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

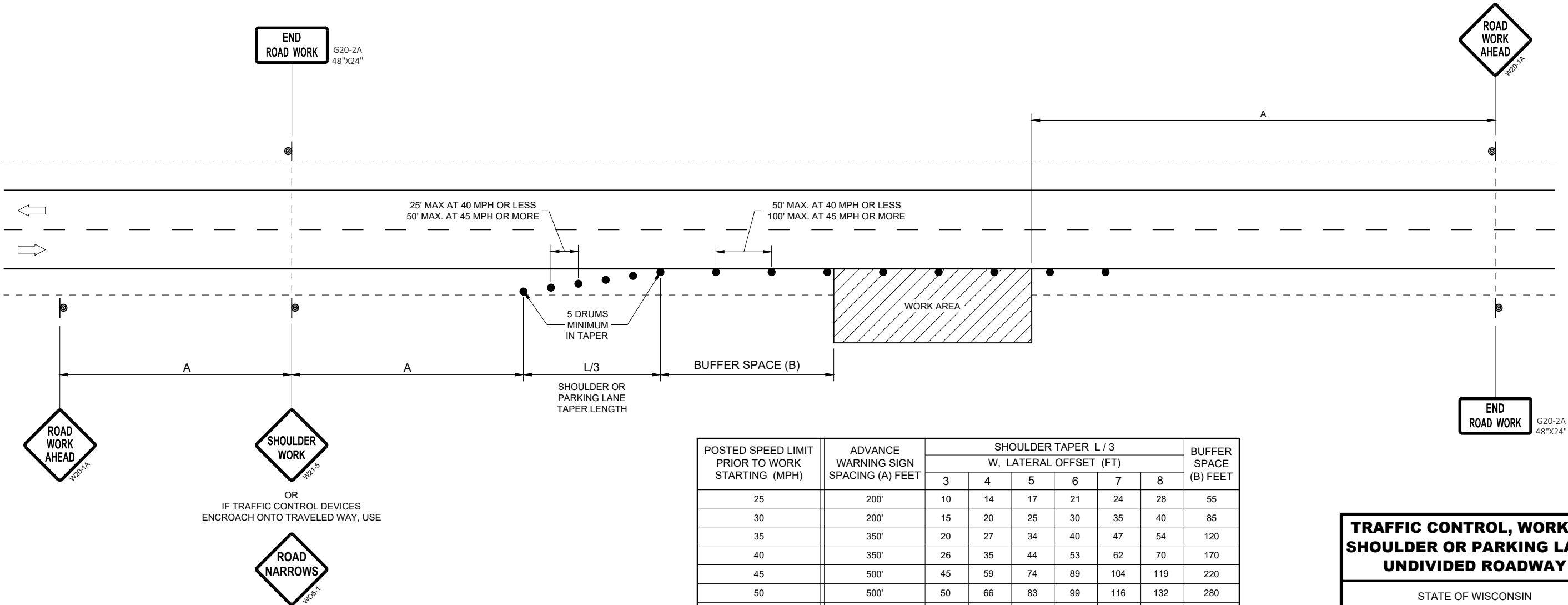
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

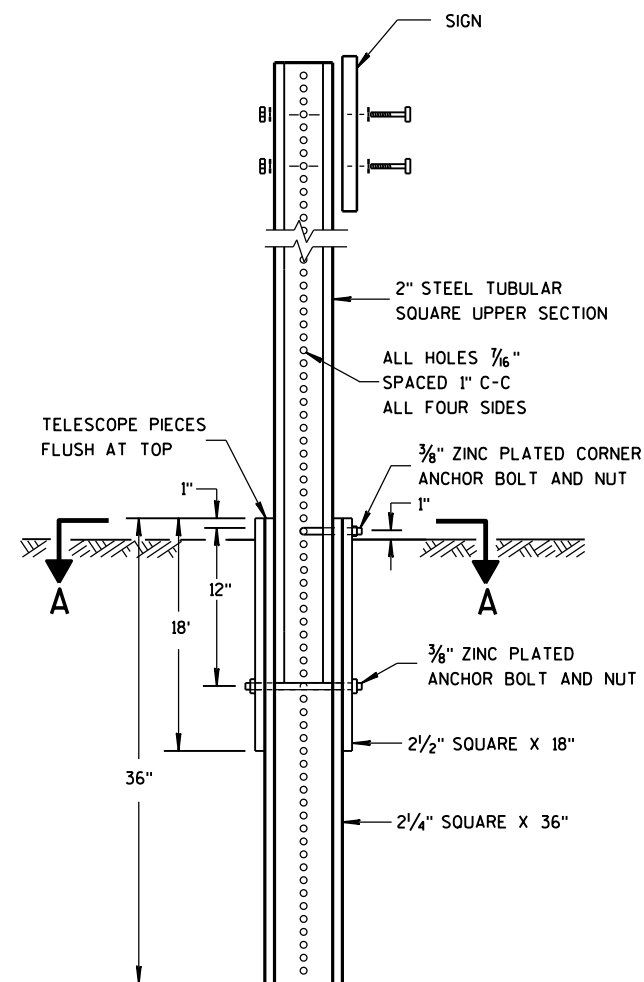


POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

TRAFFIC CONTROL, WORK ON
SHOULDER OR PARKING LANE,
UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020 /S/ Andrew Heidtke
DATE STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER
FHWA

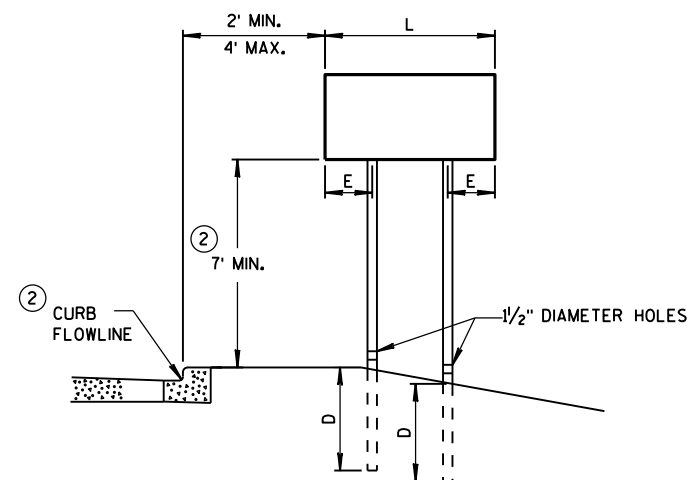
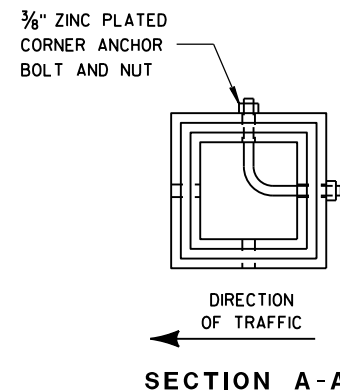


DETAIL OF TUBULAR
STEEL SIGN POST

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

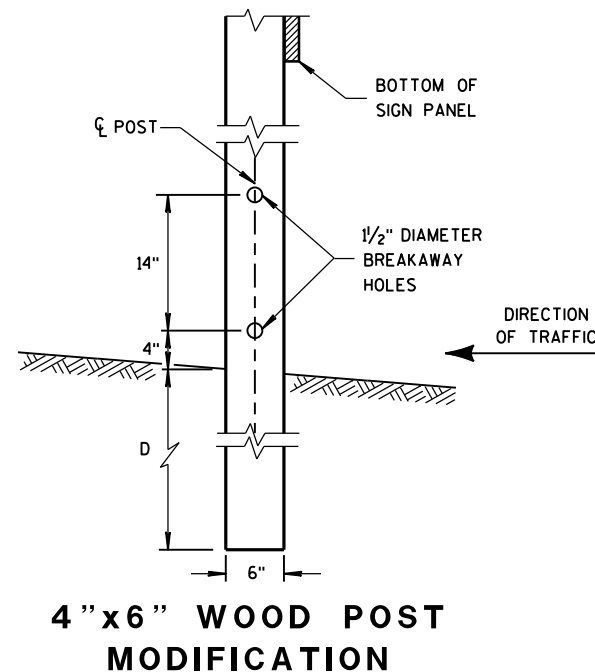
SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL
BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).
SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED
ON TUBULAR STEEL POSTS.



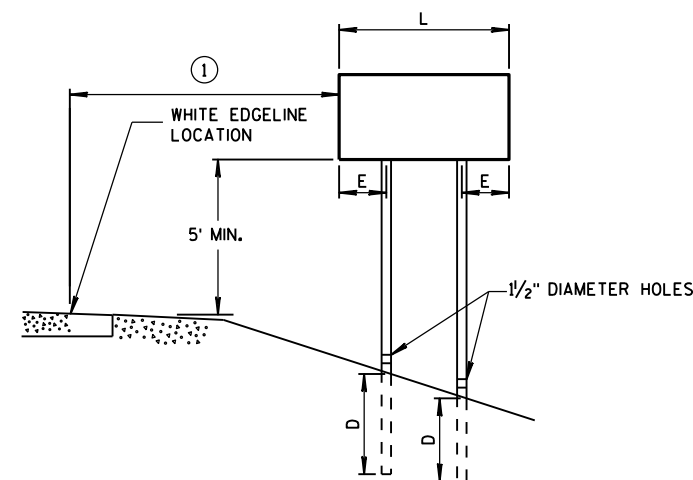
URBAN AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST EMBEDMENT DEPTH	
AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'



4 "x6 " WOOD POST
MODIFICATION



RURAL AREA

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

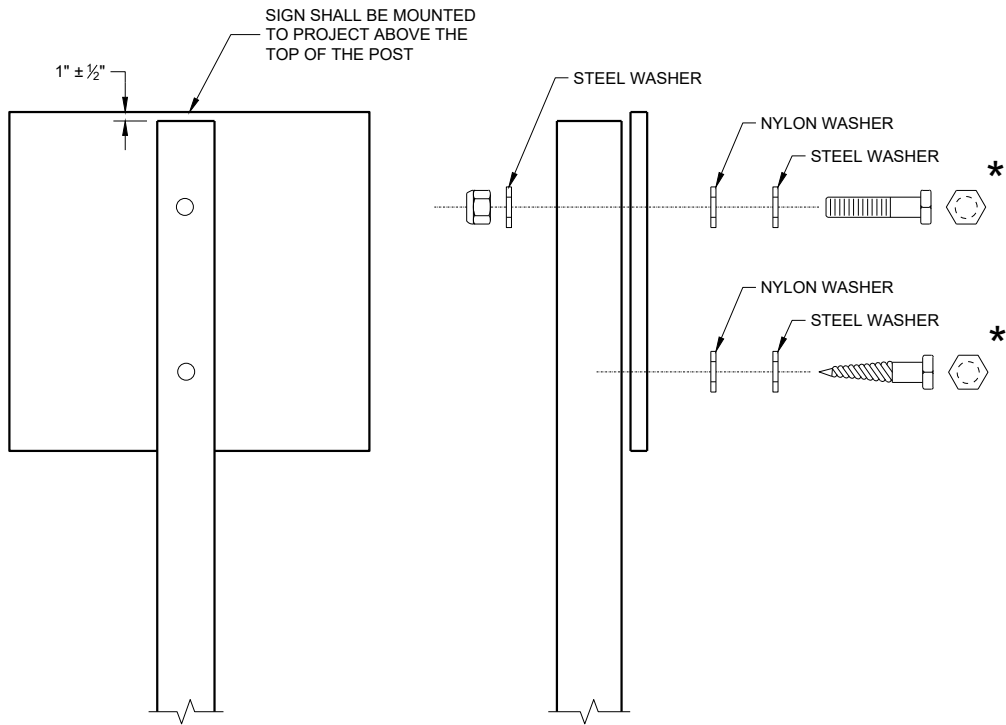
SEE NOTE ③

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL
SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS
SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM
DESIGNATION: A 153, CLASS D, OR SC 3
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM
DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH
SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED
COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

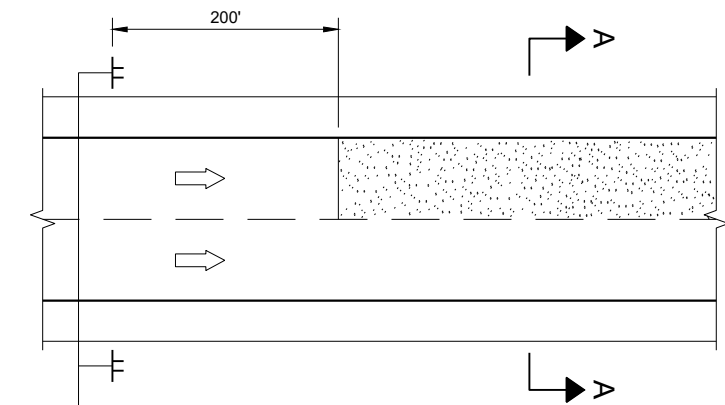
WOOD POST (4" x 6")
LAG SCREWS - 3/8" x 3"
MACHINE BOLTS - 5/16" x 6 1/2" OR 7" LENGTH W/NUTS

SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - 3/8" x 3 1/4" LENGTH W/NUTS
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM
BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH,
GRIP RANGE 0.042 - 0.375 INCH

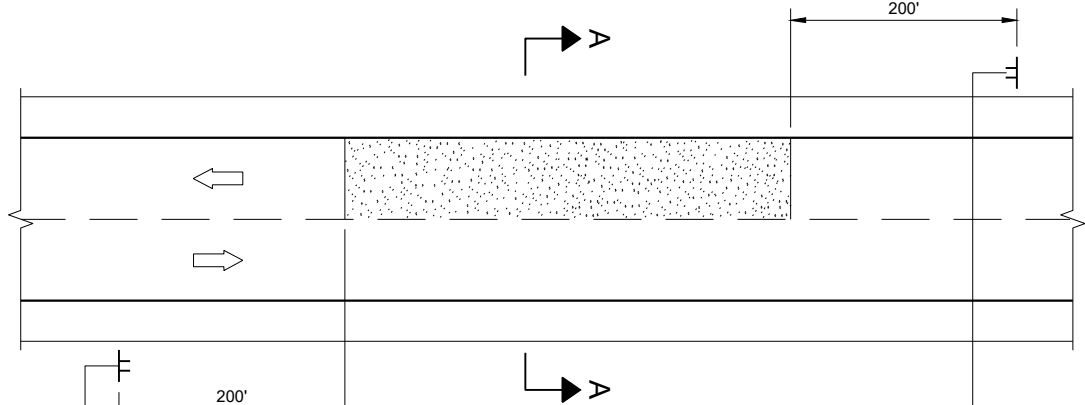
WASHERS (ALL POSTS) -
1 1/4" O.D. x 3/8" I.D. x 1/16" STEEL
1 1/4" O.D. x 3/8" I.D. x 0.080 NYLON

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION
PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM
SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH
THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER
THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

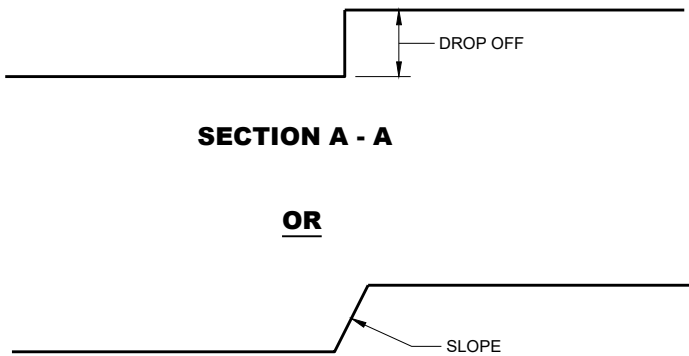
ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



MULTI-LANE



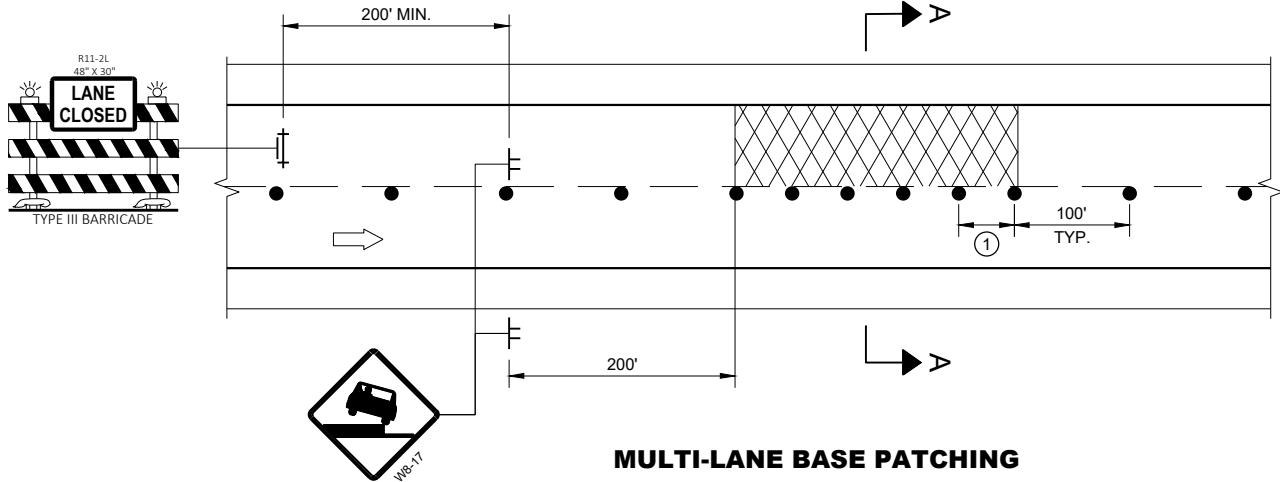
TWO-WAY TWO LANE



SECTION A - A

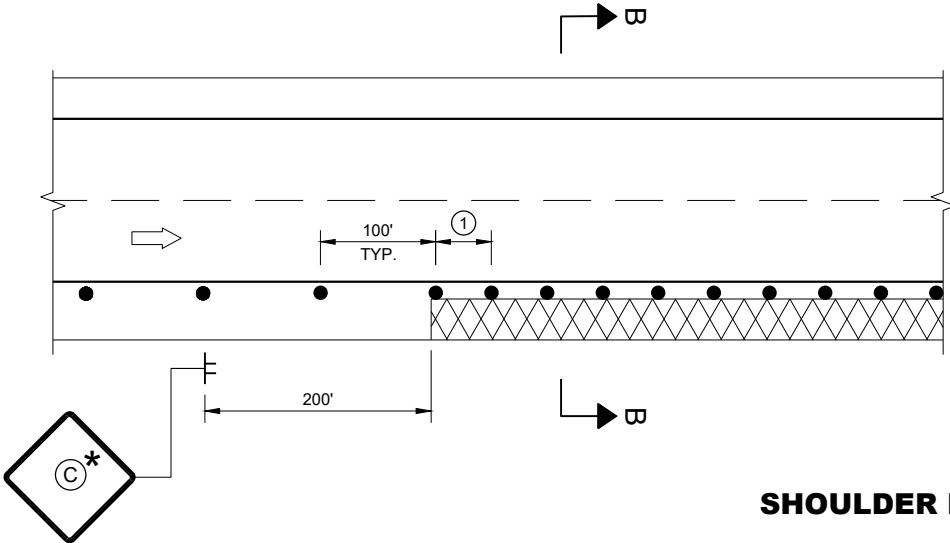
OR

SECTION A - A

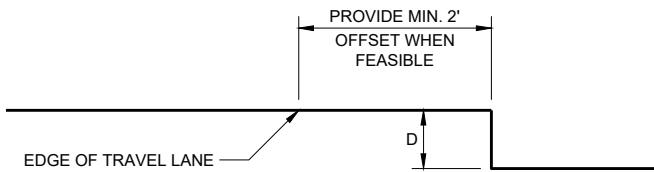


MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	 WB-8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	 WB-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

① USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

TRAFFIC CONTROL,
DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.



THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

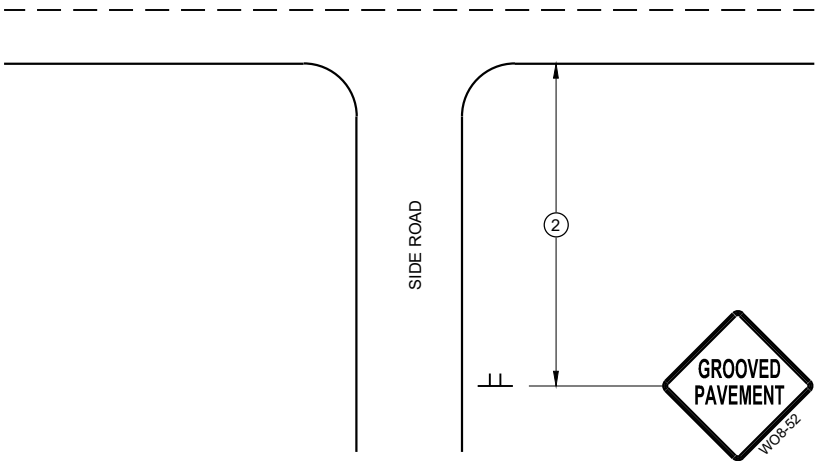
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

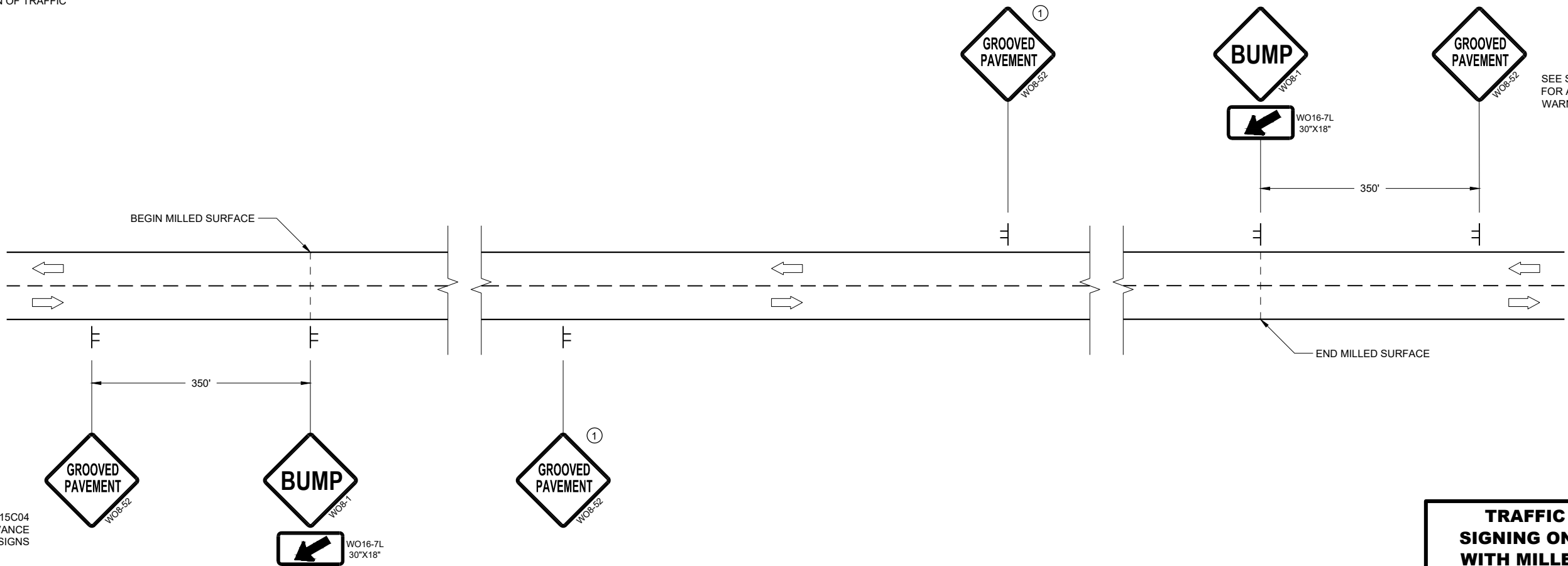
- ① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH
SIGN DETAIL



DETAIL FOR SIGNING ON MILLED SURFACES

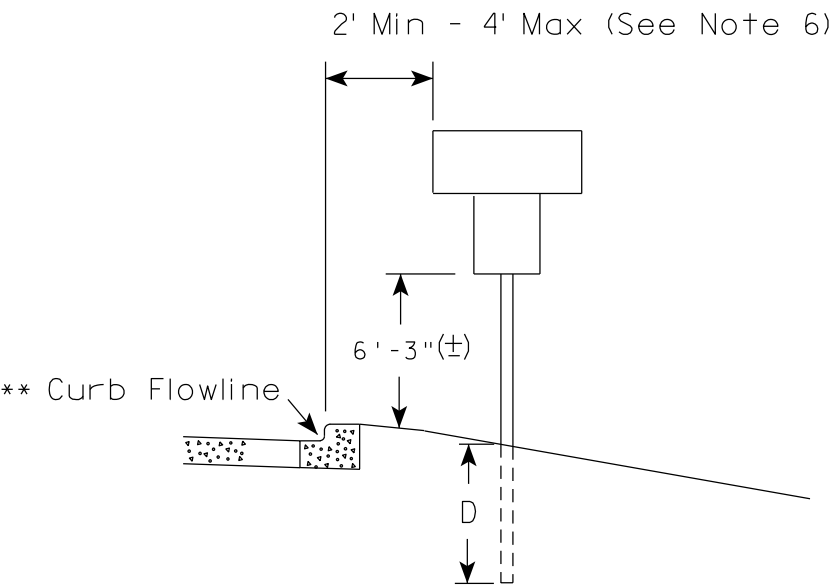
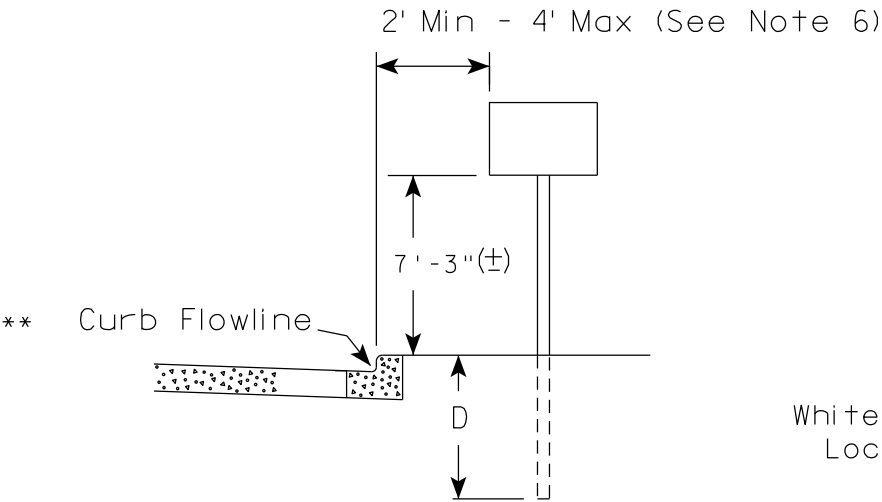
TRAFFIC CONTROL,
SIGNING ON ROADWAYS
WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

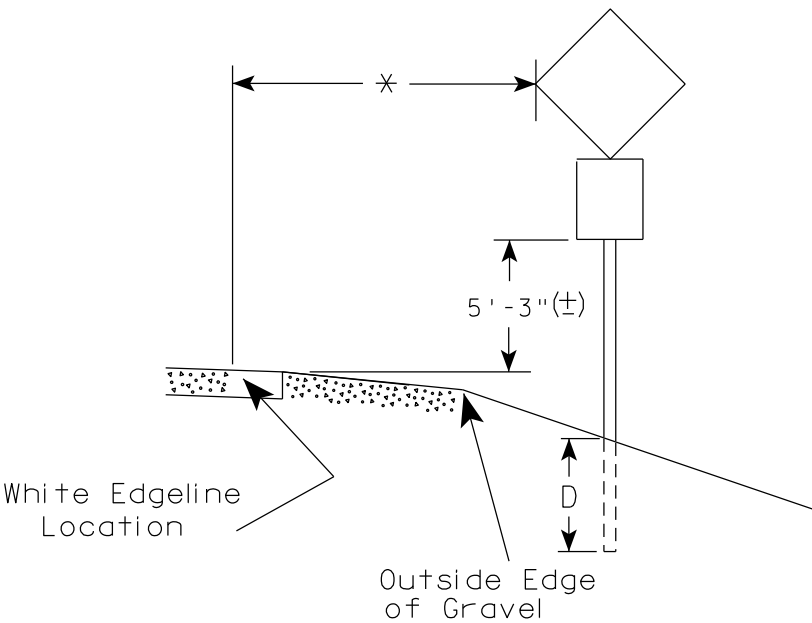
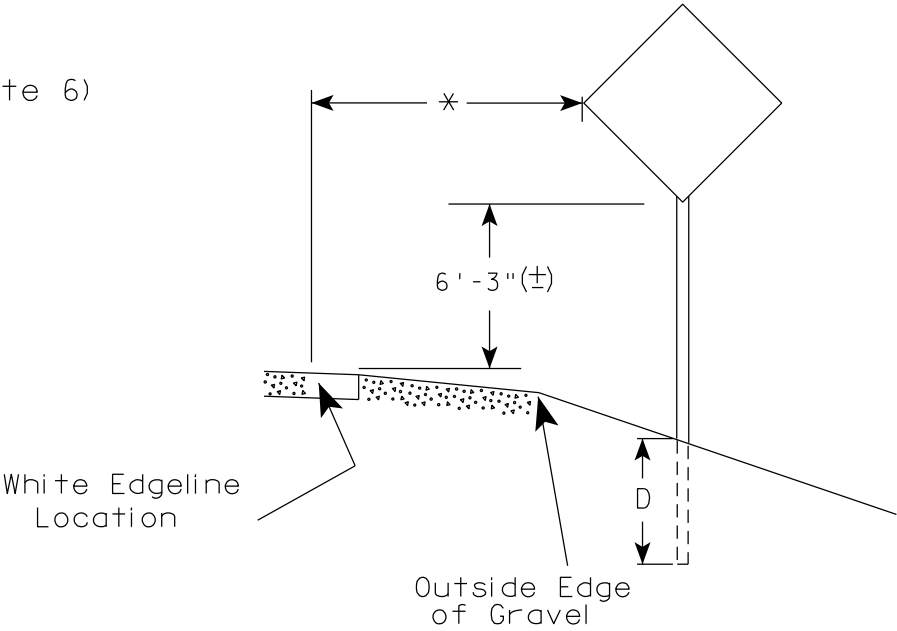
APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

POST EMBEDMENT DEPTH

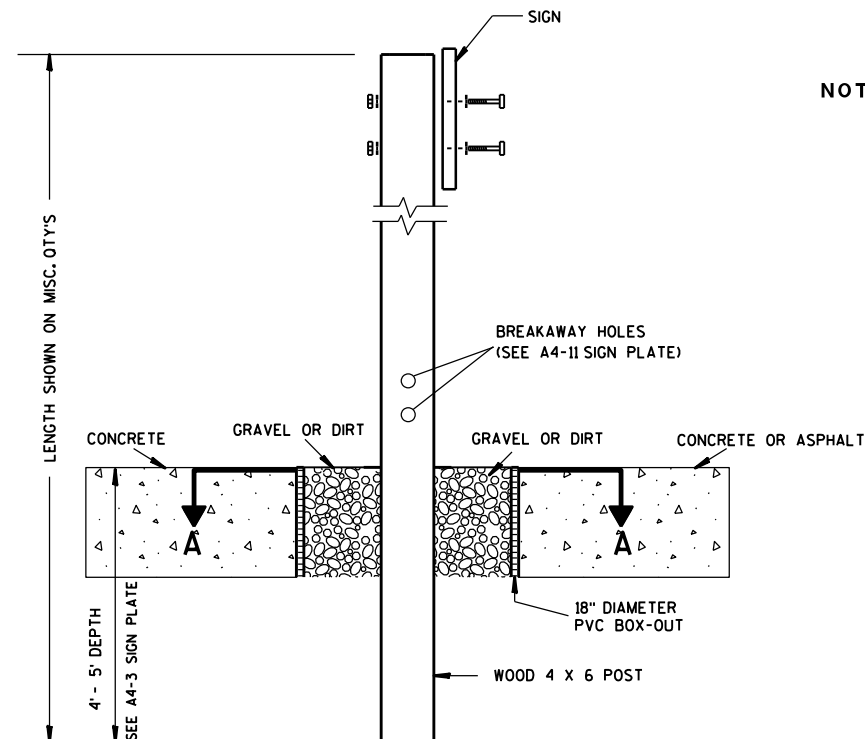
Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

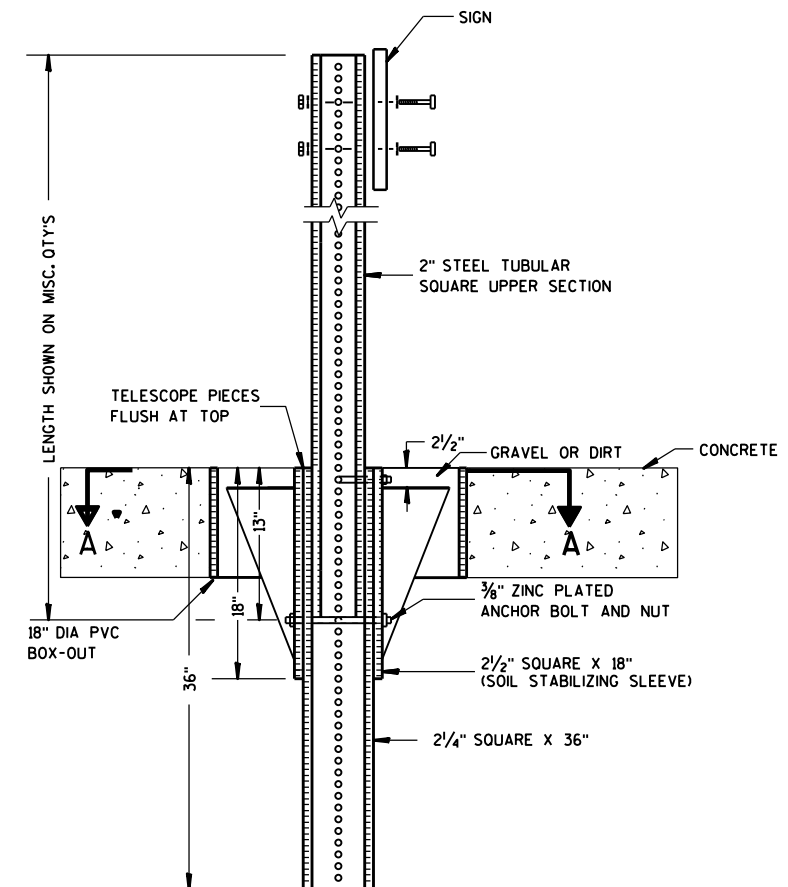
DATE 5/13/2020 PLATE NO. A4-3.22



ELEVATION VIEW

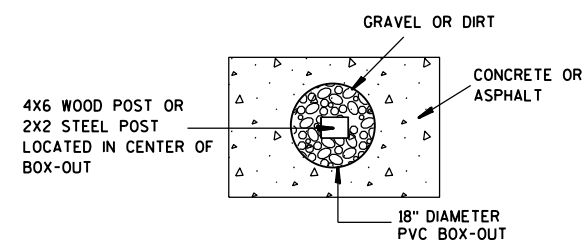
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- NOTES:**
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
 2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
 3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

**SIGN POST
BOX-OUTS
A4-3B**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

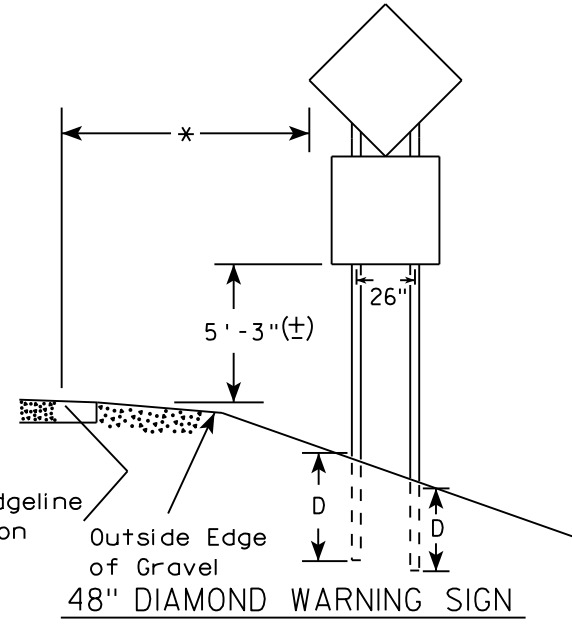
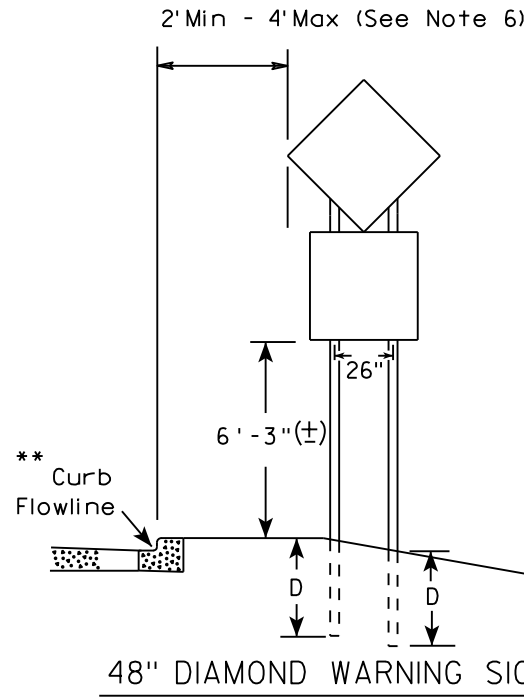
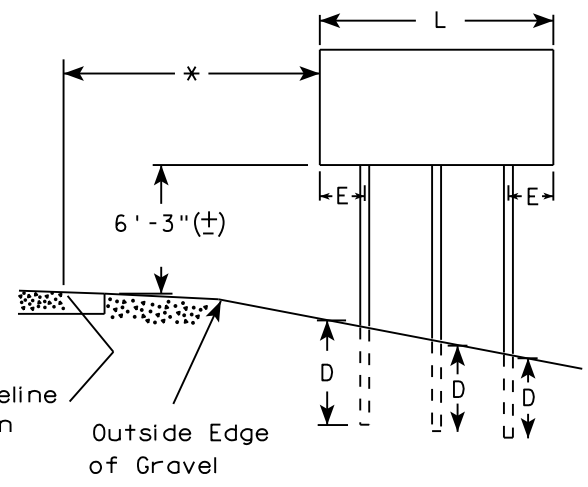
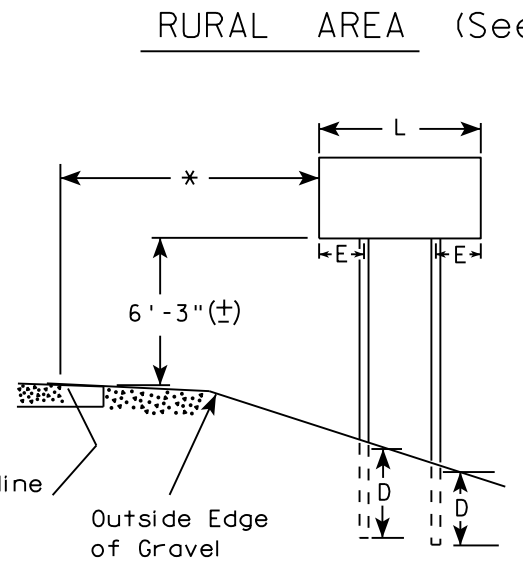
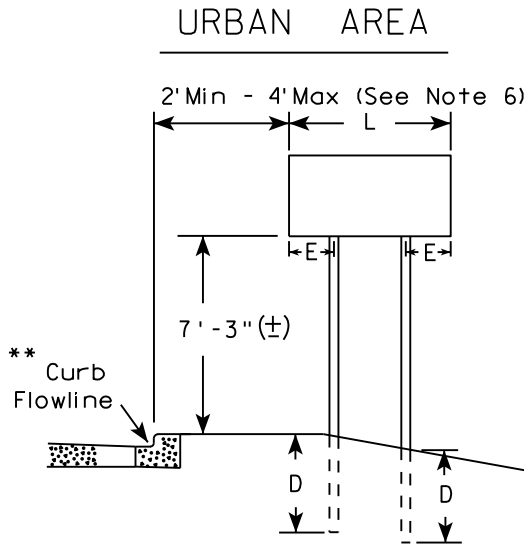
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



- GENERAL NOTES
1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
 2. See tables below for required number of posts.
 3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
 4. The (±) tolerance for mounting height is 3 inches.
 5. J-Assemblies are considered to be one sign for mounting height.
 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
 8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

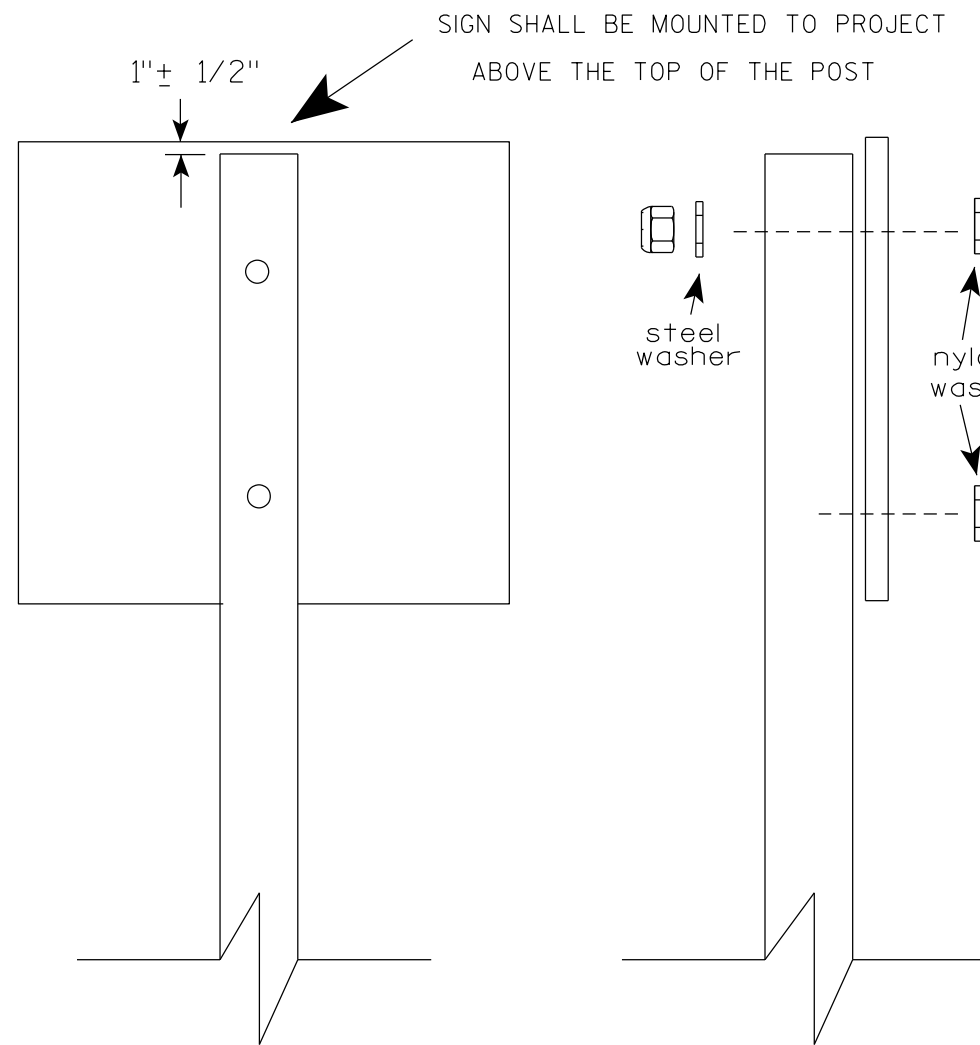
Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

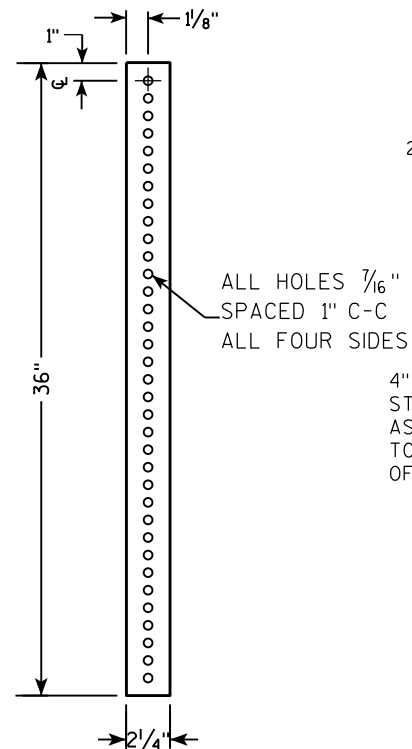
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
- $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
- $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
- O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

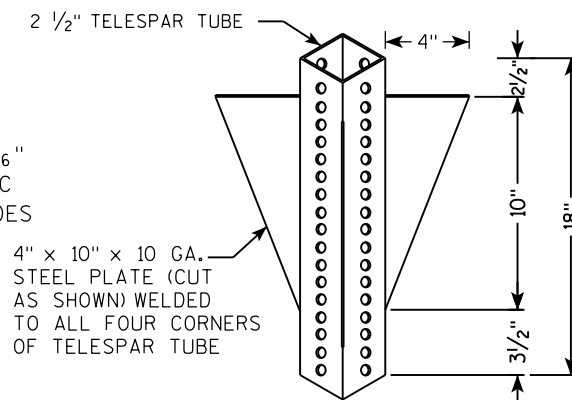
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



**2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH**



LENGTH SHOWN ON MISC. QTY'S
 18" DIA SCHEDULE 40 PVC BOX-OUT
 TELESCOPE PIECES FLUSH AT TOP
 36"
 18"
 13"
 2 1/2"
 2 1/4" SQUARE X 36"
 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
 3/8" ZINC PLATED ANCHOR BOLT AND NUT
 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT
 ALL HOLES 7/16" SPACED 1" C-C ALL FOUR SIDES
 2" STEEL TUBULAR SQUARE UPPER SECTION
 SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
 SIGN
 2 1/2" GRAVEL OR DIRT

LENGTH SHOWN ON MISC. QTY'S

SIGN

SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES

$\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT

TELESCOPE PIECES FLUSH AT TOP

1"

$\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT

2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)

2 1/4" SQUARE X 36"

36"

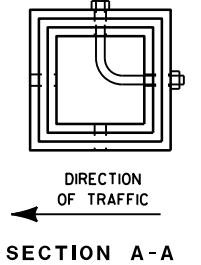
18"

12"

A

A

3/8" ZINC PLATED CORNER
ANCHOR BOLT AND NUT



Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

TUBULAR STEEL
SIGN POST
A4-9

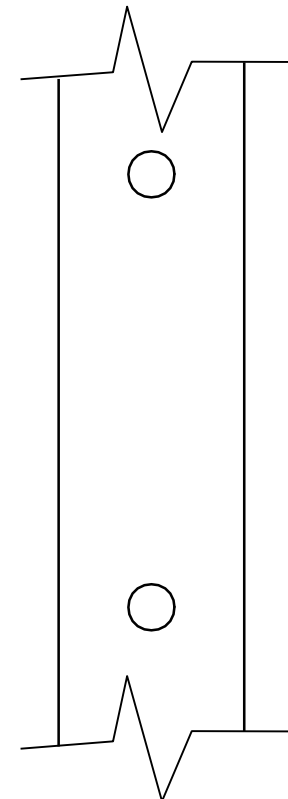
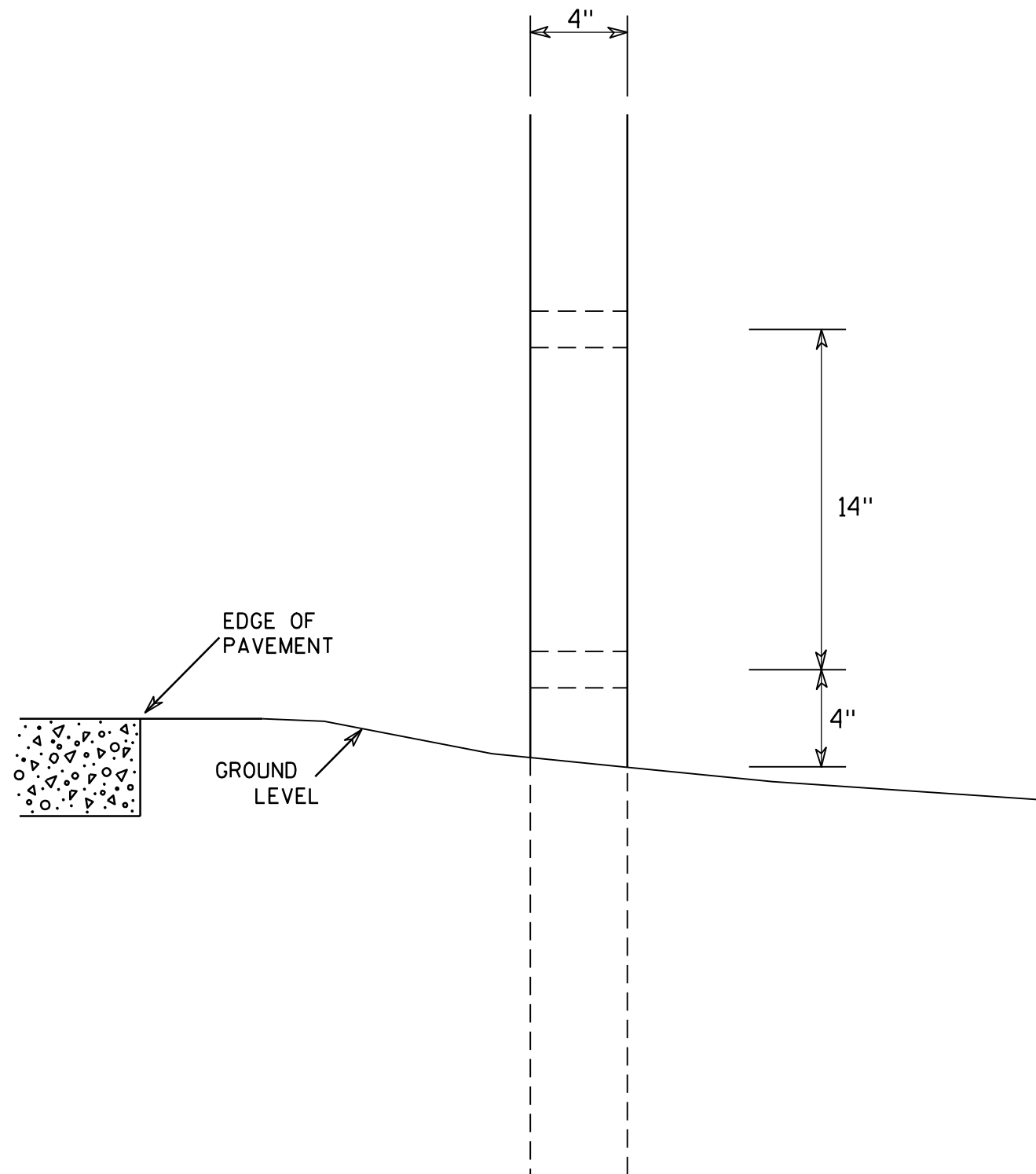
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthieu R. Rauch

for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1 1/2" diameter holes drilled perpendicular to the roadway centerline.

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

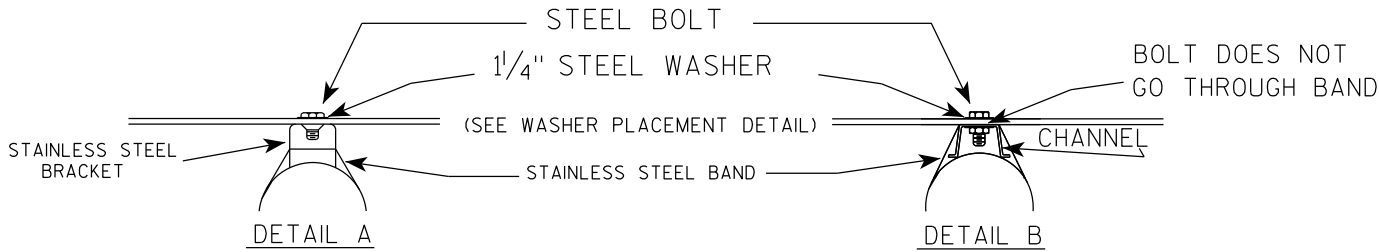
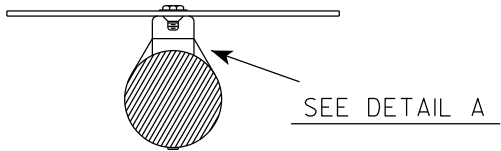
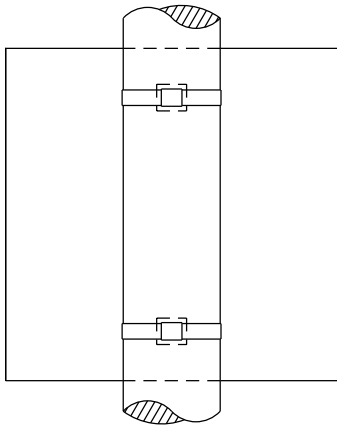
COUNTY:

SHEET NO:

E

BANDING

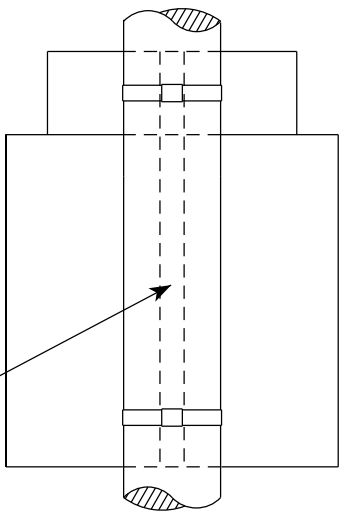
SINGLE SIGN



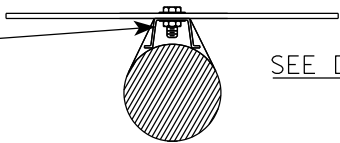
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be $\frac{3}{4}$ " in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

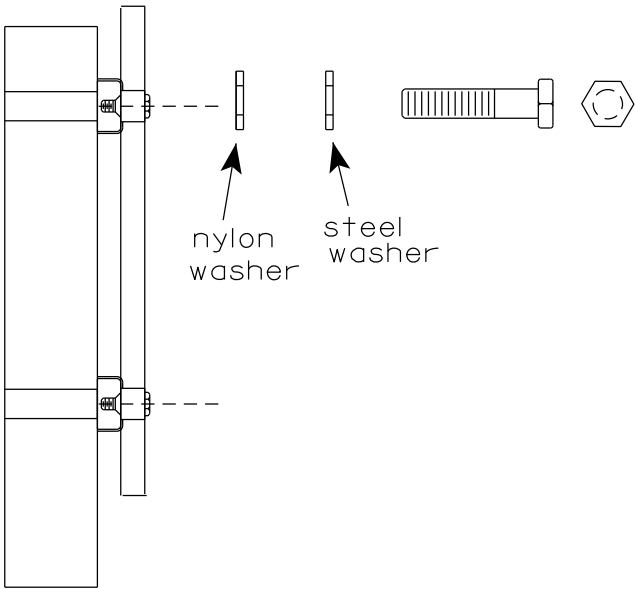
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



WASHER PLACEMENT



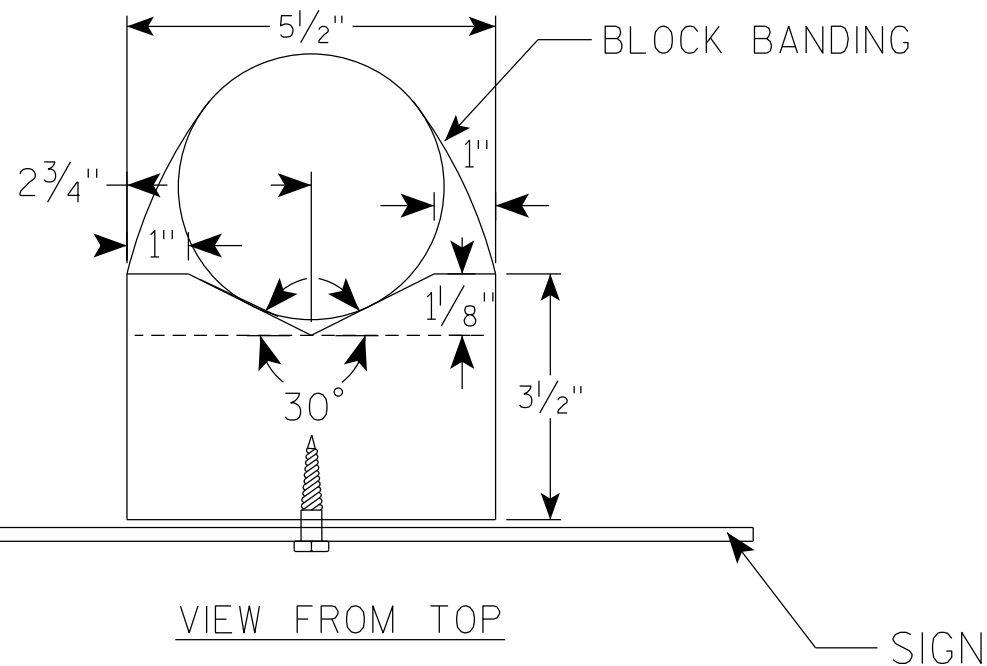
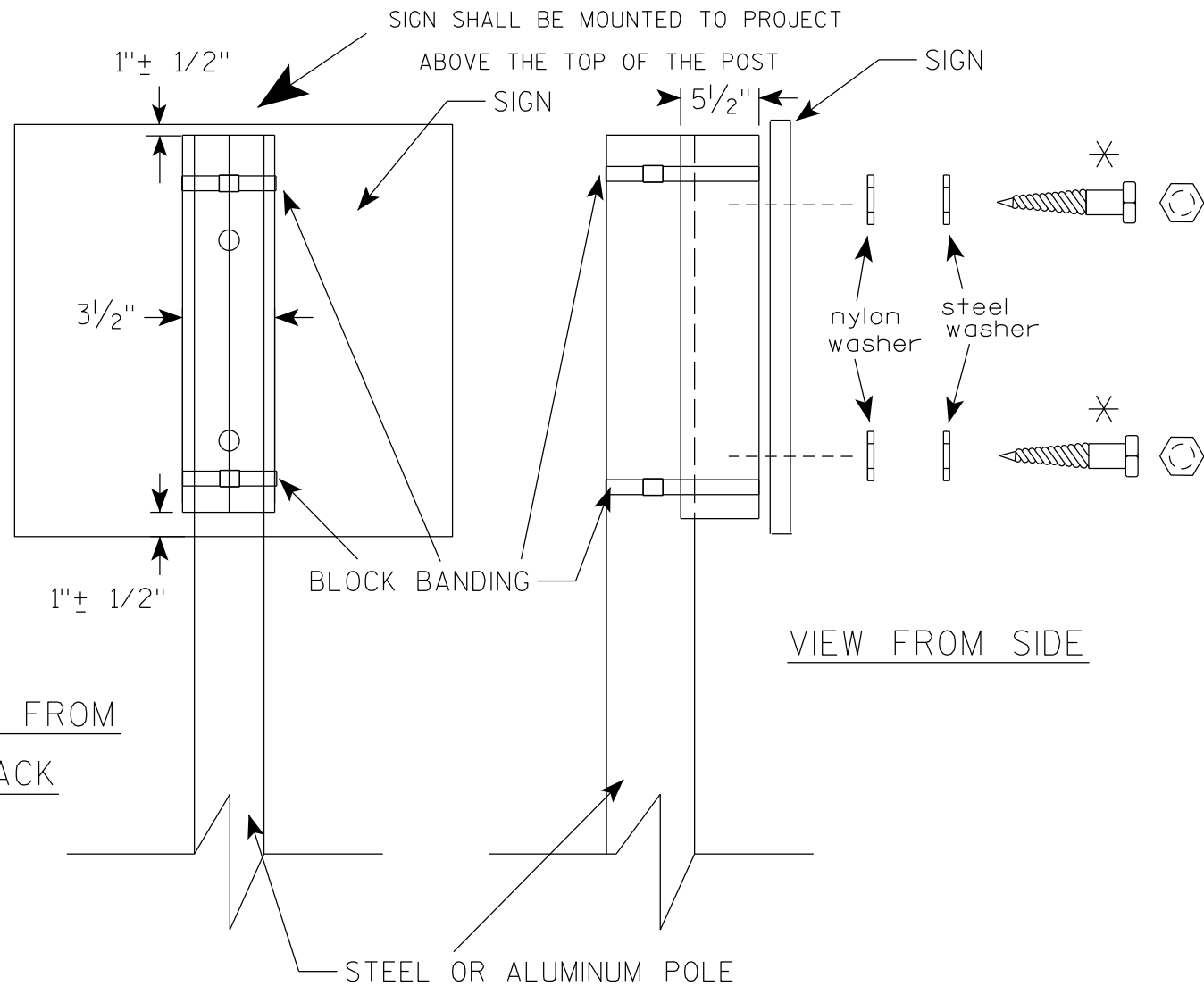
WASHERS (ALL POSTS) -
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4

VIEW FROM
BACK



GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE $1\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $1\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-10.2

PROJECT NO:

SHEET NO:

E



Wisconsin Department of Transportation

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through innovation and exceptional service.

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